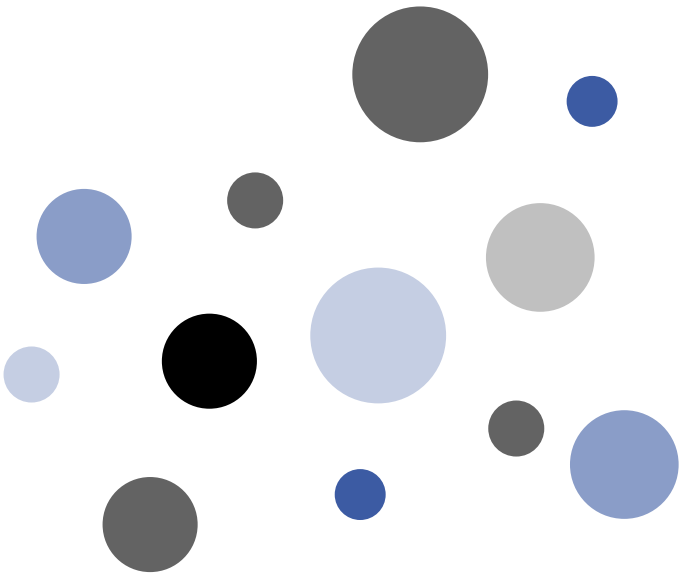
JS310 Series

SignJet

Service Manual

MANUAL NO.JS310-UM-251



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2	06.12.07	Additional parts added for the parts list.	115 to 132	02
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1. Safety information

Before use your Inkjet Digital Printer, please read following safety information carefully and pay more attention to the cautions on the Printer.

1.1 Safety precautions

- **Install over-current and over-voltage facility for printer power.**
  Failure to follow this guide could result in electric shock, personnel injury and fire.
- **Clean the ink channels with solution matching to the used ink.**
  Failure to follow this guide could result in filter clog and ink channel blockage.
- **Besides the ground-line for power, another unattached ground-line should be connected outdoor.**
  Failure to follow this guide could result in abnormal work status of printer.
- **Static prevent facility should be settled on the carpet or in dry climate.**
  Failure to follow this guide could result in print head or other parts damage on the printer.
- **Waiting for 10 minutes at least after power off to transport, connect and check the printer.**
  Failure to follow this guide could result in electric shock.
- **Printer should be settled on flat floor and be adjusted horizontally.**
  Failure to follow this guide could reduce the print resolution.
- **Clean the print head and ink channel with solution after long-time printing.**
  Failure to follow this guide could result in print head damage and ink channel clog.
- **Never put hands on depend fence while the printer is working.**
  Failure to follow this guide could result in hand crushing.
- **Never put hands into the heating board while the board is heating.**
  Failure to follow this guide could result in hand scald.
- **Never put hands on rotating rollers while the printer is working.**
  Failure to follow this guide could result in hand crushing.
- **Don’t open the electric tank in normal condition.**
  Failure to follow this guide could result in electric shock.

1.2 Important Safety Information

- Do not block the hole on the cover.
- Do not insert any object into the Printer groove. Don’t let any kind of liquid splash into Printer.
- Only use the power supply according to the label.
- Connect all the equipment to a properly grounded socket. Avoid the socket in the same circuit with copy machine or air conditioner.
- Avoid to using the socket controlled by the wall switch or by auto timer.
- Please keep Printer away from the latent source of electromagnetic disturbance. For example, loudspeaker or wireless phone.
- If you use additional cable, please make sure that total amperage of the equipment connecting with cable shall not exceed the amperage of the power supply. Moreover, the amperage of all equipment connecting with wall socket does not exceed the amperage of the wall socket.
- Do not use damaged Electrical Power wire.
- Do not repair Printer by yourself.
- Shut off the power and ask experienced technician for help, if the following situations occur:

Power cable or plug is damaged.

Liquid splashes into printer.

Printer falls down or broken.

Printer cannot work properly or change in property.

1.3 Caution When Using Printer

- Don’t use your hand to move print head; otherwise the printer will be damaged.
- Always use power switch to turn On/off the printer. Before shutting down the Printer, do not pull out Power Supply wire or Data Wire.
- Before moving the printer, please make sure the print head is fixed at original position.

1.4 Guide When Using Ink

- Never put the ink near open flames. Failure to follow this warning might result in fire.
- Do not swallow ink or avoid its splashes on the eye.
- If ink spills on the skin, please wash with soap and water. If ink splashes into eye, please wash with water immediately and consult a doctor as required.
- If it is swallowed, do not try to vomit it forcefully, but see a doctor.
- Do not shake the ink cartridge in case ink leak is caused.
- After using for a certain period (generally 3 months), you should take off the ink cartridge, clean it and dry it.
- Please keep surrounding clean when you replace a new ink container. It helps you improve printing quality.
- Do not mix the waste ink with any other chemicals and solvent when you displace the waste ink.

Also dispose the waste ink as the industrial waste (waste oil).

1.5 Choosing Printer Installation Place

- Put printer at a horizontal and stable place with enough space; otherwise, the Printer may not work properly.
- Don’t leave Printer at a place where temperature and humidity change severely. Avoid direct sunlight, strong light or heat.
- Avoid shaking or vibrating.
- Keep sufficient room around printer for air circulation.
- Place printer nearby the wall socket, so that it is easy to connect or disconnect the power supply

1.6 Warning, Caution and Attention

Warning

Must obey in order to ensure personal safety.

Caution

Must obey in order to protect the machine.

Attention

Contain some important and useful information about operation.

2. Technical Parameters

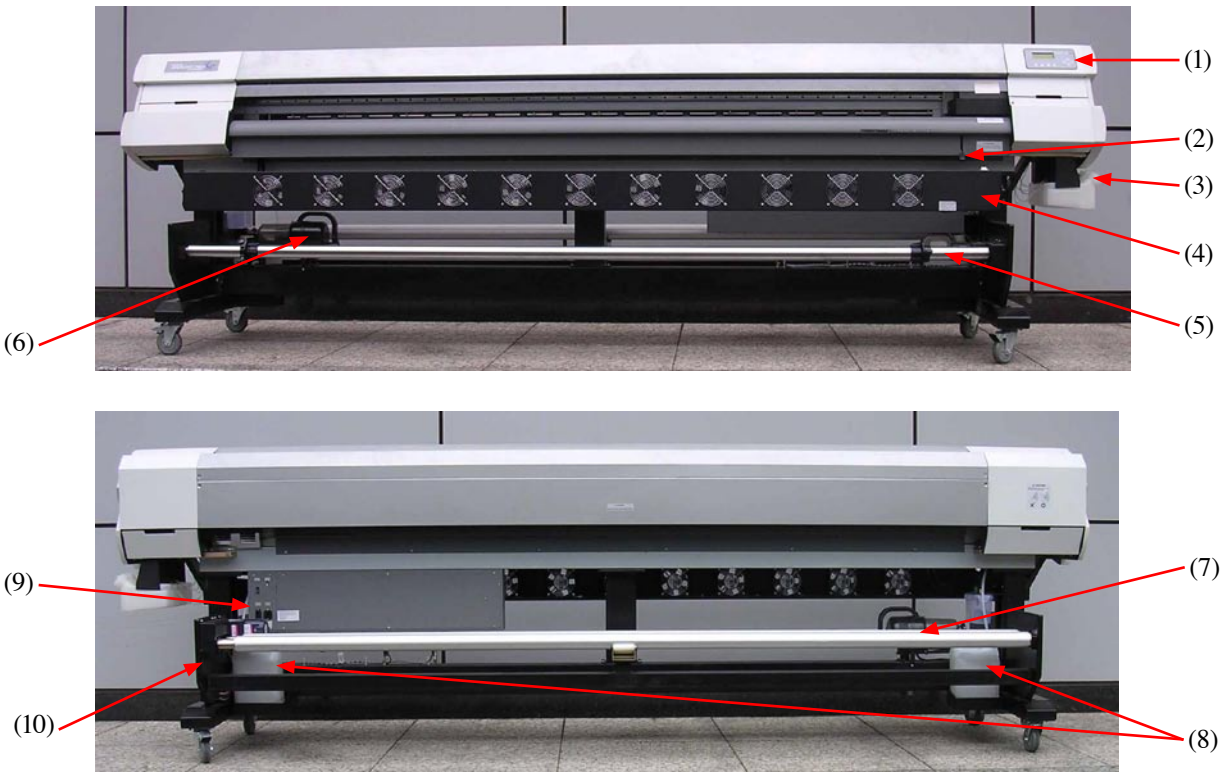
Product	**JS310-25ES**	**JS310-18ES**
Printer Technique	Xaar 126 300dpi piezo head, 8 head inside	
Resolution	200dpi, 400dpi	
Color Quality	Photo effect including 2 levels: Basic and High Quality	
Max. Media Width	2530 mm (thickness less than 1 mm)	1860 mm (thickness less than 1 mm)
Man. Printing Width	2471 mm	1800 mm
Min. Printing Size	A4 or 210 mm (thickness less than 1 mm)	
Output (m^2/h) (Designed values, not from measurement)	Mode	Output (m^2/h)
	180 x 200 dpi 2pass	27.5
	180 x 200 dpi 4-2pass	14.5
	180 x 200 dpi 3pass	19.2
	180 x 200 dpi 6-3pass	10.5
	180 x 200 dpi 4pass	14.5
	180 x 200 dpi 8-4pass	7.5
	180 x 200 dpi 6pass	10.5
	180 x 200 dpi 8pass	7.5
	300 x 300 dpi	14.5
Display	LCD display with 8 keys panel, self-diagnosis available	
Ink Type	Solvent based ink: C, M, Y, K and solvent based solution	
Ink Supply Mode	300 ml/min auto ink supply by electric pump, volume of main tank 1000 ml/color	
Ink Inspection System	Auto/manual ink supply, low ink detector	
Printing Driver	Support many RIP drivers	
Operation Platforms	Multi-operation platforms (Windows 2000, XP, etc.)	
Media Type	Flex, vinyl, window film, polyester, etc.	
Media Transmission	Roll media or sheet media (bigger than A4 or 210 mm)	
Media Processing	Auto feeding and take-up system, weight less than 70 kg/roll	Auto feeding and take-up system, weight less than 40 kg/roll
Print head Height	3 mm to 5 mm above media adjustable	
Pre-heater & Dry System	Auto heating after electrifying, the tiptop temperature is about 40˚C	
Clamp	Manual adjustment media width	
Print head Cleaning System	Auto positive pressure cleaning	
Safety System	Inside safety lock with auto shutting down function	

Product	**JS310-25ES**	**JS310-18ES**
Print Interface	USB2.0 interface (Windows 2000, NT, XP, etc.)	
Noise	Printing status less than 70 db / waiting status less than 40 db (ISO7779)	
Printer Size (including ink tank) / Net Weight	L 3820 mm x H 1190 mm x W 890 mm / 330 Kg	L 3103 mm x H 1160 mm x W 890 mm / 270 Kg
Package Size / Net Weight	L 3920 mm x H 1365 mm x W 960 mm / 470 Kg	L 3220 mm x H 1365 mm x W 960 mm / 400 Kg
Input Voltage	AC 200 to 240V, 50Hz/60Hz	
Voltage for the Heating and Drying System	AC 200 to 240V, 50Hz/60Hz	
Power (AC 220V applied)	2000W	
Working Environment	Temperature: 20˚C to 28˚C, Humidity: 40% to 70%	

The parameters above are subject to be changed.

3. Product Configuration

3.1 Main Unit



(1) LCD Control Panel

(2) Press roller control pole

(3) Ink tanks & Solution tank

(4) DRYER Power Socket

(5) Take-up Roller

(6) Cleaner

(7) Media Feeding Roller

(8) Waste Ink Tanks

(9) PRINTER Power Socket & HEATER Power Socket

(10)Media Feeding System

3.2 Accessories

No.	Item	Q'ty	Remark
1	Printhead	8	Xaar 126-300
2	Power cable	3	UL cord/250V/4 m
3	USB interface cable	1	4 m
4	Ink tank	4	
5	Solution tank	1	
6	Screw M4*12	8	Spare parts
7	File bag	1	
8	Tool box	1	
9	Software CD	1	RIP
10	Software CD	1	Utility, "Try"
11	Non-woven fabric	1	2 m
12	Sealing washer	2	Spare parts
13	Wet keeping frame	1	
14	Brush	4	
15	User's Manual	1	
16	Set-up Guide	2	English: 1, Spanish: 1
17	Maintenance of print head Manual	1	
18	Quick Install Manual	1	
19	Try Important Setup Sheet	1	
20	Waste ink tank	2	
21	Bracket, Waste ink tank	2	
22	ø3/5 Soft tube	1	1 m, Spare part
23	ø4/6 Soft tube	1	1 m, Spare part
24	Clamp, Printhead	10	
25	Inlet tube assembly	4	Tube connector for 126 printhead x 2 ø3/5 Soft tube (100 mm) x 2 ø3/5 Soft tube (200 mm) F type 3/5 connector Y type 3-way connector
26	Outlet tube assembly	8	Tube connector for 126 printhead ø3/5 Soft tube (80 mm) F type 3/5Connection cable, Printhead connector Cap, Connector
27	Connection cable, Printhead	8	
28	Screw for printhead alignment	3	
29	Flange, Take-up roller	2	
30	Light bulb	1	Spare parts
31	Empty core	2	Inner diameter 3 in, Length 36 in
32	Packing list	1	
33	Jig, Head height adjustment	1	
34	Tube clamper	8	
35	AC Plug	3	250V
36	Media Flange	2	

No.1 Printhead

No.2 Power cable

No.3 USB interface cable

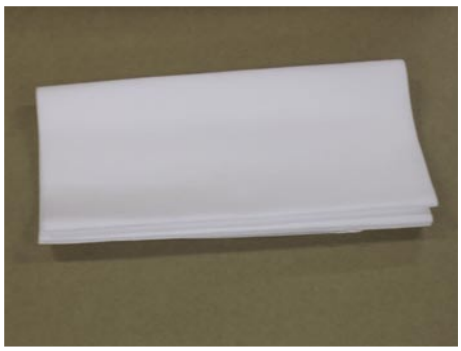
No.4 Ink tanks, No.5 Solution tank

No.6 Screws, M4*12

No.7 File bag

No.8 Tool box

No.9, 10 SSoftware CD



No.11 Non-woven fabric

No.12 Sealing washers

No.13 Wet keeping frame

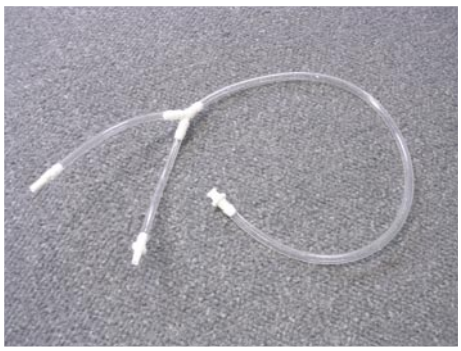
No.14 Brushes

No.20 Waste ink tank

No.21 Bracket, Waste ink tank

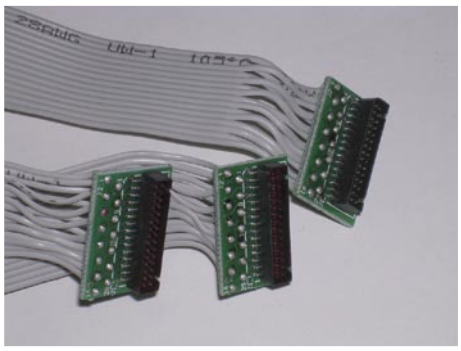
No.22, 23 Ø3/5, Ø4/6 Soft tube

No.24 Clamp, Printhead



No.25 Inlet tube assembly

No.26 Outlet tube assembly

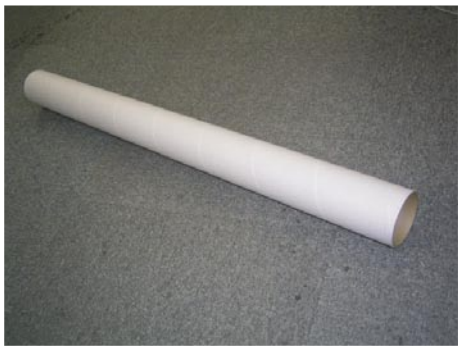


No.27 Connection cables, Printhead

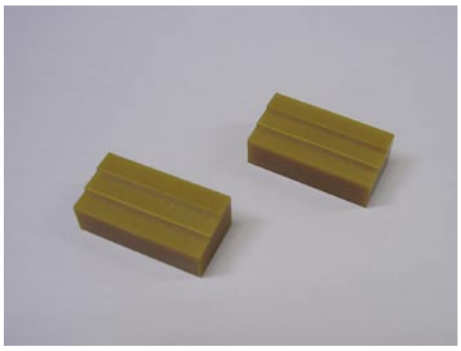
No. 28 Screws for printhead alignment

No.29 Flange, Take-up roller

No.30 Light bulb



No.31 Empty core



No.32 Jig, Head height adjustment

No.34 Tube clamper

No.35 AC Plug

No.36 Media Flange

3.3 Consumables

• Ink

	Eco-Friendly Solvent	Eco-Friendly Solvent	Pure Solvent
Black	IJ-80050Bk	IJ-80100K	IJ-80200K
Cyan	IJ-80050C	IJ-80100C	IJ-80200C
Magenta	IJ-80050M	IJ-80100M	IJ-80200M
Yellow	IJ-80050Y	IJ-80100Y	IJ-80200Y

CAUTION: Do not use non-specified inks.

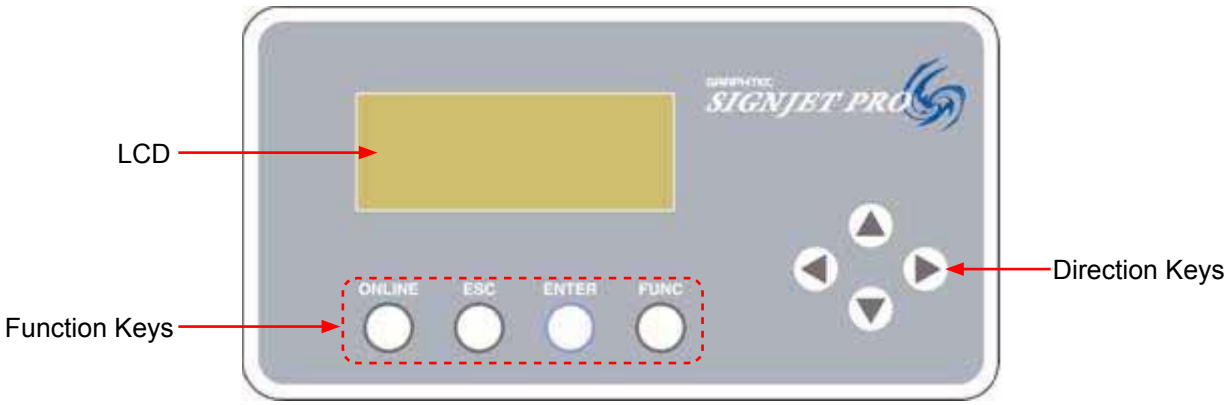
• Flash solution

IJ-80050S (For IJ-80050 Ink)

IJ-80100S (For IJ-80100 Ink and IJ-80200 Ink)

4. Basic Panel Operation

4.1 Menu Structure of Control Panel



4.1.1 Function description of the keys

Direction keys

(1) Operation via control panel:

UP and DOWN ARROW key: Scroll the menus for selection; reduce or increase the values on LCD.

LEFT and RIGHT ARROW key: Move the cursor position over the number string on LCD.

Function keys

(1) ONLINE:

Switch the printer online and offline / press down and hold it for several seconds to pause printing.

Waiting Online

(2) ESC:

Cancel operation and return to up-level menu.

(3) ENTER:

Confirm and execute the operation.

(4) FUNC:

Shift to special function. Combine with LEFT ARROW key to test print when the printer is waiting.

Key combination

FUNC + LEFT ARROW key. Test print when printer is waiting.

Basic operation

After power on the printer, the system executes X and Y motion test and p/h test.

Booting	>System
	>Y Motor
	>X Motor
Check	->Print head

After self-test, the system moves the p/h carriage back to original position. The LCD displays printer model and version number and then shift to basic operation menu shown as below. That stands for the printer is ready.

Menu	->	1. Ink Status +
		2. Heat Status +
		3. Cleaning Toll +
OFFLINE		4. Print para +

4.1.2 Menu structure

Menu structure includes main menus and sub menus. Main menus followed by "+" s have sub menus inside. Submenus followed by "-" s have no lower level inside.

Main menu includes items as below:

-> 1. Ink Status +
2. Heat Status +
3. Cleaning Tool +
4. Print para +
5. Application +
6. Engineer Set +

Press UP and DOWN ARROW keys to scroll the menus upward and downward. Press ENTER to unwrap submenus. For example, while the arrow points to "1. Ink Status", press ENTER to unwrap the submenu. LCD displays details of submenu M1 as below:

On the LCD, M1 stands for this submenu under main menu No.1. Here press ESC key, it returns the display to main menu.

Arrow points to the first line on the LCD. Scroll the submenus by pressing UP and DOWN keys same as main menu. The submenu followed by a "-" means has no lower submenu inside. Press ENTER key to execute the operation. Here press ESC key, operation will be canceled.

Menu	->	Ink Status
M1		Cha C M Y K cm
		Rn _ _ _ _ _ _ _
OFFLINE		Al _ _ _ _ _ _ _

4.2 Description of menu function

Main menu	Submenu	Function description
Ink Status	Ink Status Ch A C M Y K c m Rn _ _ _ _ _ _ _ Al _ _ _ _ _ _ _	Ink status displays. The LCD display details as below: Ink Status Cha C M Y K cm Rn _ _ _ _ _ _ _ Al _ _ _ _ _ _ _ Item **Ch**: stands for ink channels. A means all channels; Item **Rn**: displays ink supply status of corresponding channel; Item **AL**: displays ink lack alarming of corresponding channel; Press **ENTER** to refill ink and cancel alarming.
Heat Status	Heat Status FH Pre P/H Tem 00 00 00 Set 00 00 00	Heating status displays. The LCD display details as below: Heat Status FH Pre P/H Tem 00 00 00 Set 00 00 00 Item **Tem**: displays actual temperature; Item **Set**: displays setup temperature.
Cleaning Tool	Firing	Press **ENTER** key to execute the operation, "**Busy**" flashes on the LCD. P/Hs spray downward to prevent nozzle clogs. The LCD stops flashing after firing finishes. Press **ENTER** key again to execute P/H firing one more time if necessary.
	Jam Test	Press **ENTER** key to execute the operation of test printing.
	Clean POS	Press **ENTER** key to execute the operation of moving P/H carriage to cleaning position.
	Home Post	Press **ENTER** key execute the operation of returning the P/H carriage to original position.
	Auto Clean	Press **ENTER** key execute the operation of negative pressure cleaning automatically.

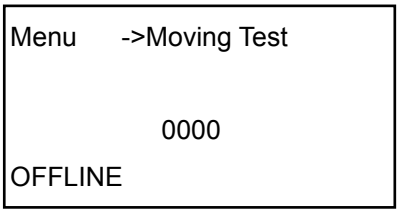
Main menu	Submenu	Function description
Print Para	Print Post	Number string “XXXX” flashed on the LCD. Here press and key to move the cursor position over the number string and press **LEFT** or **RIGHT** ARROW key to increase or reduce the value of the flashing number. Press **ENTER** to save the number as print position. Images and test print start from this position. Here press key combination **FUNC** + **UP** or **DOWN** ARROW key to move the media forward or backward; press key combination **FUNC** + **LEFT** ARROW key to move the P/H carriage to printing position It will tell the position set well or not. Press any key to return the P/H carriage to original position.
	Bi-dir. Adj	This function is used to adjust bi-direction printing to ensure bi-direction printing quality. The LCD displays details as below after pressing **ENTER** key: Menu -> 2BID Adjust XXXX OFFLINE Press **UP** or **DOWN** ARROW key to increase or reduce the value “**XXXX**” by 1. Press **ENTER** to save it as bi-direction compensation. To adjust the compensation accurately, adjust the P/Hs to an inch in TRY one by one.
	Print Speed	This function is used to adjust the scan speed of the P/H carriage. The LCD displays details as below: Menu -> 2Pirnt Speed Norm OFFLINE Press **UP** or **DOWN** ARROW key to select from the 3 options. **High** scan speed will reduce printing quality. **Low** scan speed will increase printing quality but reduce printing speed. The suggestion is **Norm**.

Main menu	Submenu	Function description
Print Para	Feed Speed	The LCD displays details similar to Print speed. "**Norm**" flashes as the default option. Press **UP** or **DOWN** ARROW key to select from the 3 options. The suggestion is "**Norm**"
	Firing Vol	"**XXXX**" flashes on the LCD. Press **UP** or **DOWN** ARROW key to increase or reduce the value by 1. This value is the firing volume of P/Hs for auto spray (that means all nozzles are unclogged).
	Flash Mode	3 options altogether are ready for flash mode selection: 0, 1 and 2. **0 stands for P/H does not flash during printing.** **1 stands for P/H flashes only once during the whole printing.** **2 stands for P/H flashes once every forward and backward.** Press or key to select from the 3 options.

<table>
<tr><th>Main menu</th><th>Submenu</th><th>Function description</th></tr>
<tr><td rowspan="5">Print Para</td><td rowspan="5">PH Volt. Set</td><td>This function is used to set Voltage of P/Hs.
The LCD displays details as below:
Menu -> PH 1 Voltage
PH 2 Voltage
PH 3 Voltage
OFFLINE PH 4 Voltage
Here press UP or DOWN ARROW key to scroll the submenu. The LCD will display values as below:
Menu ->1PH 1 Voltage
0099
0182
OFFLINE
The upper number is adjustable EF value of P/H and the down number indicates voltage value of P/H.
Press LEFT or RIGHT ARROW to move the cursor position over the number string and press UP or DOWN ARROW key to increase or reduce the flashing number of EF value.
The 8 P/Hs setup from 1 to 8:
PH 1 Voltage for P/H C1;
PH 2 Voltage for P/H C2;

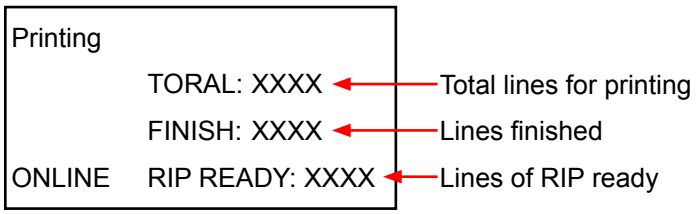
PH 8 Voltage for P/H K2.</td></tr>
<tr><td rowspan="4">Application</td><td>UV Lamp Power</td><td>No operation.</td></tr>
<tr><td>Front Heater</td><td>“45” flashes on the LCD as default setting at the unit of centigrade degrees. Press UP or DOWN ARROW key to increase or reduce the value of temperature.
For normal condition, keep the default value.</td></tr>
<tr><td>Pre Heater</td><td>“40” flashes on the LCD as default setting at the unit of centigrade degree. Press UP or DOWN ARROW key to increase or reduce the value of temperature.
For normal condition keep the default value.</td></tr>
<tr><td>PH Heater</td><td>No operation.</td></tr>
</table>

Main menu	Submenu	Function description
Application	Media Detect	Press **ENTER** to execute the operation, the LCD displays OFF means the function is switch off when the printer is waiting. **OFF** (function switch off) Press **UP** or **DOWN** ARROW key to switch on the function. **ON** (function switch on) Pull up the press pole and then pull it down, the LCD displays details as below: Menu Media Detect Star: 0000mm Lenth: 0000mm OFFLINE Press **ENTER** key to start media edge detecting. Press **ESC** to cancel the operation. After detecting, "**OK**" displays means the detecting is successful and saves the result as print position, which should add the value of offset set at below step. "**Error**" displays means the detecting is failed and the value of print position does not change.
	Media Offset	"XXXX" flashes on the LCD. Press Up or Down key to increase or reduce the value. This value added to the value of media detecting is saved as the value of print position.
	Take Up Detect	No operation.
	T Neg. Pressure	No operation.
	Curve of ink	Select ink curves in the 12 options from 0 to 11. LCD displays details as below: □□□□□□□□ 1 2 3 4 The name of ink curve indicates as below. 1. **Xr** stands for XAAR print head. 2. **2** stands for 200 dpi print head. **3** stands for 300 dpi print head. 3. **S** stands for solvent based ink type. **O** stands for oil based ink type. **U** stands for UV ink type. 4. Ink name

Main menu	Submenu	Function description
Engineer Set	Clean Post	No operation.
	Printer Width	No operation.
	Moving Test	Press **ENTER** to execute the operation. The LCD displays details as below:  And P/H carriage moves back and forth to simulate printing, but P/H not spray. It's used for mechanical test. The number on the LCD indicates times the P/H carriage moves back and forth.
	Default Set	No operation.
	Y Test Speed	No operation.
	X Test Speed	No operation.

4.3 LCD display for normal usage

4.3.1 LCD display during printing



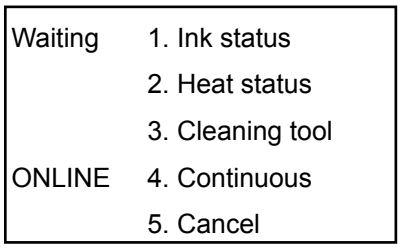
The LCD displays total lines for printing, lines finished and lines of RIP ready during printing.

4.3.2 LCD display when printing is paused

P/H nozzles may be clogged during printing, so it needs cleaning.

Press and hold **ONLINE** key to pause the printing until the LCD displays "**Busy**".

The P/H carriage returns to original position after it finishes the current line printing. The LCD displays menus as below:



Press **UP** or **DOWN** ARROW key to select "**Cleaning tool**" function in the menu and execute cleaning.

Select "**Continuous**" to continue printing or "**Cancel**" to cancel printing.

4.3.3 System warning and error display

1. Warning:

Warn1: UV lamp is NOT ready;

Warn2: Press pole is NOT pulled down;

Warn3: The system is executing ink refilling;

2 Error:

When one of the errors listed below occurs during printing, the printer will run normally but give alarm for warning.

Err5: Ink refill overtime;

Err6: The safety bottle is full;

Err7: For solvent based printer: The waste ink bottle is full;

For UV printer: The safety bottle in manometer is full;

Err8: Null

Errors listed below indicate the detail for further check when self test fails

Err9: Y raster count direction differs from motion direction;

Err10: Y raster signal is NOT detected;

Err11: Y raster error too big;

Err12: Reverse count abnormal;

Err13: Self test for main board failed;

Err14: Version of assistant board NOT matches main board;

4.4 Printing Steps

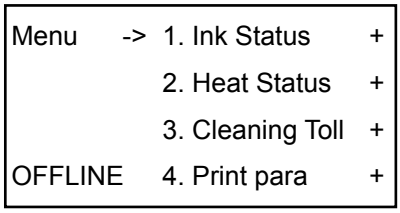
On normal condition, the steps are as follows:

1. Power on the printer
2. Turn on the computer

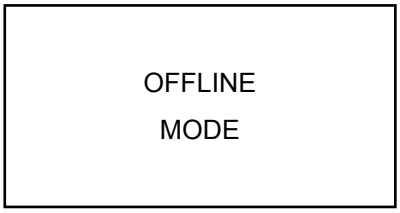
Note:

It is recommended to turn on the printer before computer. Otherwise the connection may fail.

3. Load media, put down the press bar to press on media.
4. Clean the head and start the self-diagnosis till no nozzle clogging.
5. Press ONLINE.



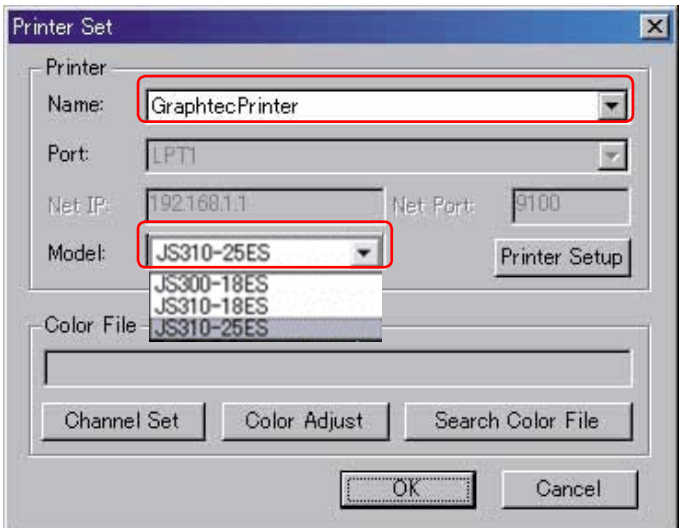
Offline mode



Online mode

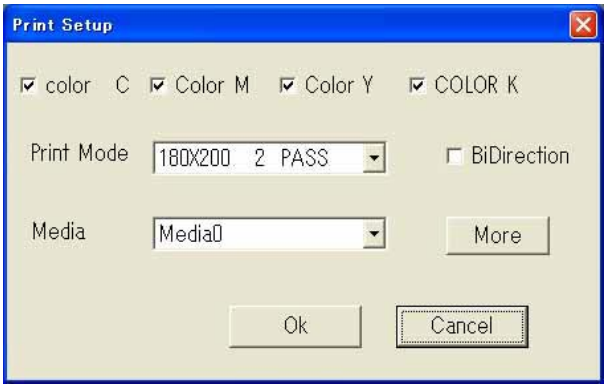
6. Trim the pattern for printing, and save it in computer.
7. Open GRAPHTEC RIP.
8. Create new file.
9. Read the pattern for printing.
10. Adjust the position, size, property, and resolution of the pattern.
11. Printer setting

(1) Select File/Printer setting. Below dialogue box shows:



(2) Select the type of printer as “GRAPHTEC Printer” and the model as “JS300-18ES”.

(3) Click the “Printer setting”. Set the relevant value in the following dialogue box.



a. Select the printing resolution.

b. Select BID or single direction printing. BID has higher efficiency than single direction.

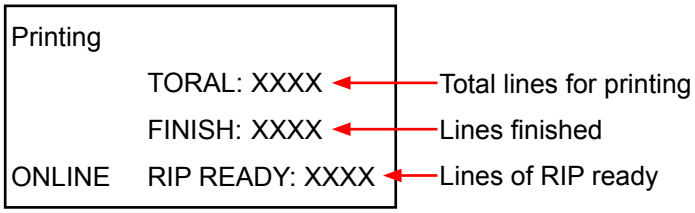
Note:

The horizontal parameters, BID compensation and feeding compensation should be adjusted already before your printing; otherwise the printing quality will be reduced.

Details of the functions above and others referred to the Sign Jet RIP Manual

12. Click “Printing Project” to print.

13. LCD displays as below when printing:

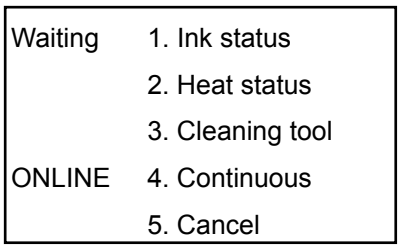


14. If clogging appears during the printing, press ONLINE for a longer time (3s) to pause printing for print head cleaning. After cleaning, press ONLINE to go on printing.

Cleaning procedure during printing:

P/H nozzles may be clogged during printing, so it needs cleaning.

Press and hold ONLINE key to pause the printing until the LCD displays “Busy”. The P/H carriage returns to original position after it finishes the current line printing. The LCD displays menus as below:



Press **UP** or **DOWN** ARROW key to select “**3. Cleaning tool**” function in the menu and execute cleaning. Select “**Continuous**” to continue printing or “**Cancel**” to cancel printing.

15. Press ONLINE when the printing is all finished. Then the printer is under the Offline mode.

Note:

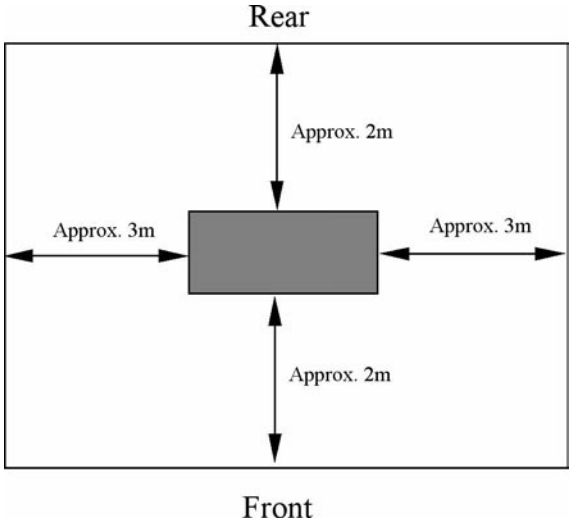
To cancel printing operation, usually do in RIP. If you want to cancel printing directly on the printer, press ONLINE button after the menu “printing cancel” appears in software.

5. Assembling the Printer and the Installation Procedure

5.1 Notes on the Installation Environment

5.1.1 Installation Space

Sufficient space must be left in front of, behind, and at both sides of the printer not only for normal operating procedures such as the replacement of consumable, the handling of printed materials, and for ventilation, but also for the replacement of parts in the event of a malfunction. Ensure that the space left around the printer is as shown in the following diagram.



CAUTION:

Do not install the printer in an unsteady location such as on a rickety base or on a sloping surface. There is a risk of injury if the printer falls or topples over.

5.1.2 Installation Space

Use the printer in the following temperature and humidity ranges.

Temperature: 20 to 28˚C

Humidity: 40 to 70% (non-condensing)

CAUTION:

If the printer is used outside the specified temperature and humidity ranges, the print quality may be adversely affected and the printer may malfunction.

5.1.3 Power Supply Specifications

The power supply specifications for this printer are as follows. Make sure that the power supply used conforms to the printer specifications.

- Printer control power supply: AC200 to 240 V, 50/60Hz
- Heater power supply: AC200 to 240 V, 50/60Hz
- Drying fan power supply: AC200 to 240 V, 50/60Hz

***Power Supply Precautions:**

(1) Install the printer near a power outlet that is within easy reach.

(2) Do not connect the printer to the same power supply line that is used for noise-generating devices such as photocopying machines, air conditioners and motors.

(3) Connect the printer to a separate power outlet. Do not connect other devices to the same power outlet.

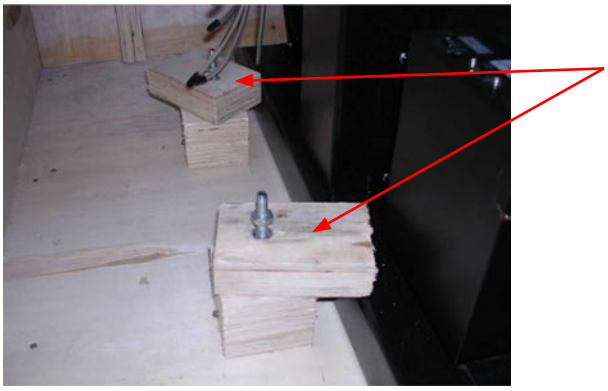
5.2 Removing the Printer from its Packaging

Follow the procedure described below to unpack the printer.

(1) Remove the top panel and the four side panels.

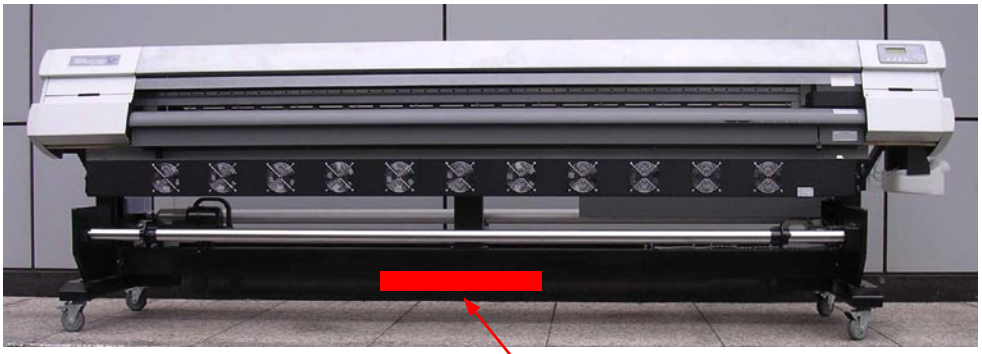
(2) Remove the accessories box and the waste ink tanks.

(3) Remove the printer fastenings.



(4) Move the printer off the base used to hold it in place.

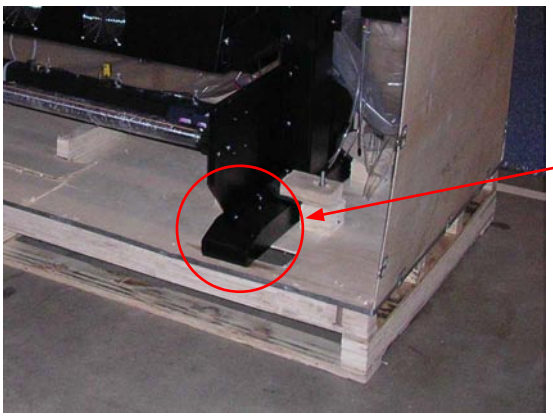
Use a forklift to raise the printer off the base.



CAUTION:

Before raising the printer, align the direction of the wheels with the direction of the rectangular holes.

If they are not aligned, the wheels will catch on the edges of the holes when the printer is raised.



Align the direction of the wheels with the rectangular holes before raising the printer.

CAUTION:

The printer weighs approximately 270 kg (JS310-18ES) or 330 kg (JS310-25ES). There is a risk of lower back injury to the person(s) attempting to lift the printer. Use a forklift to move the printer.

CAUTION:

When raising the printer off the base used to hold it in place, make sure that the printer's weight is evenly balanced.

(5) Move the printer.

Unlock the casters, and then move the printer to its installation location.

If the installation location is on a different level or if there is a steep slope leading up to it, use a forklift or crane to move the printer.

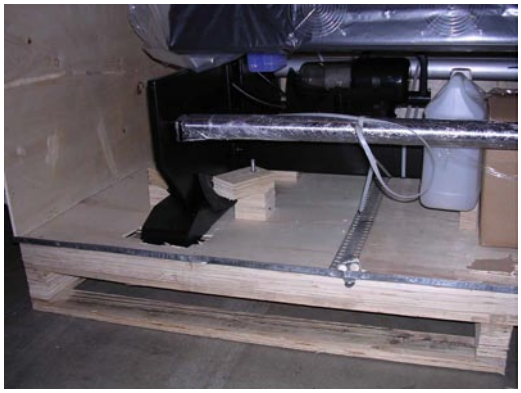
CAUTION:

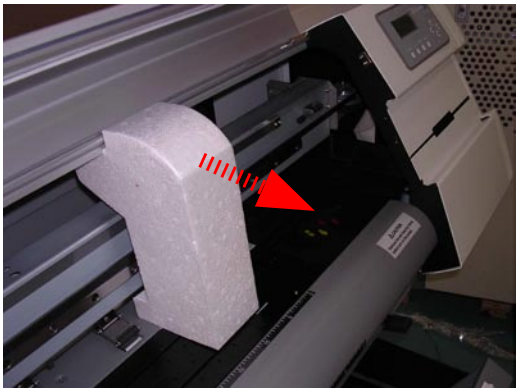
The printer weighs approximately 270 kg (JS310-18ES) or 330 kg (JS310-25ES). There is a risk of lower back injury to the person(s) attempting to lift the printer. Use a forklift or crane to move the printer if the installation location is on a different level or if there is a steep slope leading up to it.

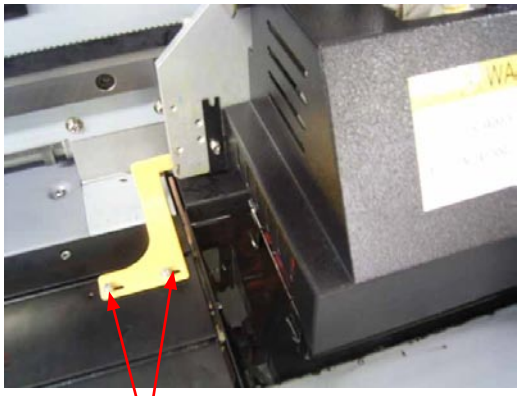
(6) Lock the casters.

Lock the casters

(7) Remove the plastic sheets and fastening bands.







Remove the print head carriage fastening (remove the screws).

CAUTION:

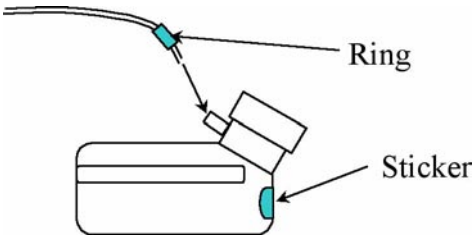
Store the print head carriage fastening in a safe place so as not to lose it.

5.3 Mounting the Ink Tanks

Follow the procedure described below to mount the four ink tanks (C, M, Y, K) and the solution tank.

(1) Remove the cap from the tip of each of the ink tubes protruding from the printer.

(2) Attach an ink tank to each of the tubes, making sure that the color of the sticker affixed to the ink tank matches the color of the ring on the ink tube. The tube without a colored ring is the tube for the cleaning solution. Attach the solution tank to this tube.



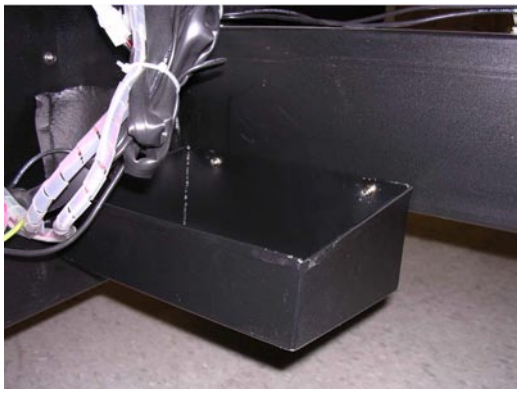
(3) Mount the ink tanks and the solution tank onto the printer.

5.4 Mounting the Waste Ink Tanks

Follow the procedure described below to mount the two waste ink tanks.

(1) Attach the waste ink tank mounting brackets to the printer.

Using the screws provided, attach one bracket to the left side and one to the right side of the printer.



(2) Connect the tubes to the waste ink tanks.

Mount the waste ink tanks on the brackets. Insert the corresponding waste liquid tubes protruding from the printer into the opening of each waste ink tank.

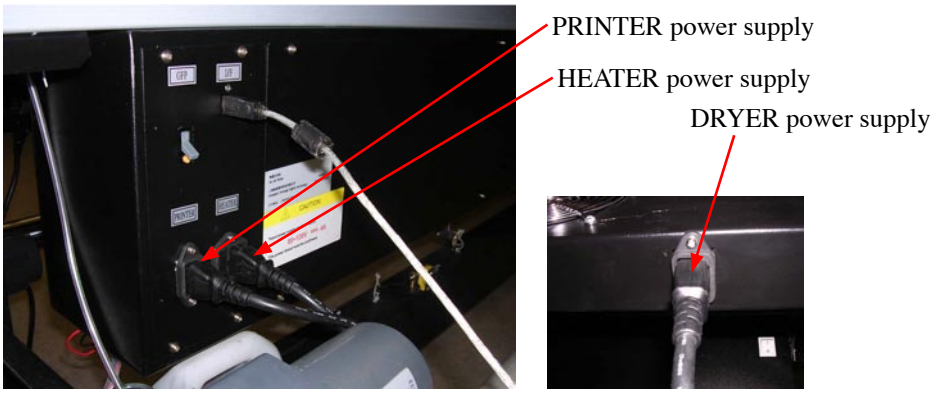
⚠ **CAUTION:**

Store the caps that were removed from the waste ink tanks in a safe place so as not to lose them.

5.5 Connecting the Power Supplies

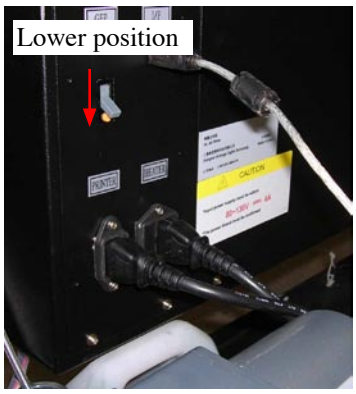
The printer is provided with three power supplies: a printer power supply, a heater power supply, and a dryer power supply. Connect a cable to each power supples, making sure that the cable conforms to the specifications.

(1) Connect the power supply cables to the power supply connectors.



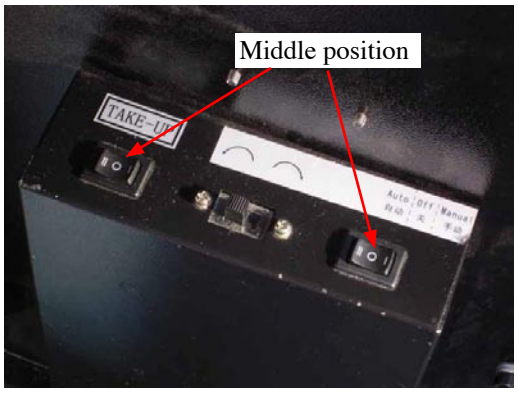
(2) Check that all of the power supply switches are off.

PRINTER power supply switch



HEATER power supply switch

DRYER power supply switch



Media Feeding System switch

(3) Insert the plug of each power supply into a power outlet.

(4) Turn on the cleaner power supply.

The lower position is the ON position for the power supply.
The upper or middle position is the OFF position.

5.6 Setting the Print Speed

5.6.1 Turning on the printer power supply

When the power is turned on, the printer begins a self-test operation (the print head carriage and the feed rollers move). When the self test has been completed, wait until the main menu is displayed on the LCD.

Since ink has not yet been supplied to the printer, a "**No Ink**" alarm will sound after several minutes have elapsed. This alarm does not indicate a malfunction, and no action is required.

5.6.2 Setting the print head carriage speed

(1) From the main menu, select [**Print Para**] and then press the **ENTER** key.

(2) From the submenu, select [**Print Speed**] and then press the **ENTER** key.

(3) Select "**Norm**", and then press the **ENTER** key.

(4) Return to the main menu.

5.6.3 Setting the media feed speed

(1) From the main menu, select [**Print Para**] and then press the **ENTER** key.

(2) From the submenu, select [**Feed Speed**] and then press the **ENTER** key.

(3) Select "**Norm**", and then press the **ENTER** key.

(4) Return to the main menu.

5.7 Executing the Moving Test

Execute the Moving Test to ensure that the lubricating oil is spread evenly on the print head carriage rails and the feed rollers.

- If the power is turned off, turn it on.
- Since ink has not yet been supplied to the printer, a "**No Ink**" alarm will sound after several minutes have elapsed. This alarm does not indicate a malfunction, and no action is required.

Executing the moving test

(1) From the main menu, select [**Engineer Set**] and then press the **ENTER** key.

(2) From the submenu, select [**Moving Test**] and then press the **ENTER** key.

(3) Let the operation continue for approximately 15 minutes.

Check that there are no abnormalities during the moving test operation.

If there are any abnormalities such as an unusual noise or if the printer doesn't operate, turn off the power supply and contact your sales representative or nearest Graphtec vendor.

(4) End the Moving Test.

Press the **ESC** key to end the moving test. When the test has ended, return to the main menu.

- Hold down the **ESC** key until the print head carriage stops at the Home position.

6. Initial Ink Induction Procedure

6.1 Initial Cleaning of the Ink Supply Tubes and the Sub Tanks

- If the power is turned off, turn it on.
- Since ink has not yet been supplied to the printer, a "**No Ink**" alarm will sound after several minutes have elapsed. This alarm does not indicate a malfunction, and no action is required.

Moving the print head carriage to the cleaning position

(1) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.

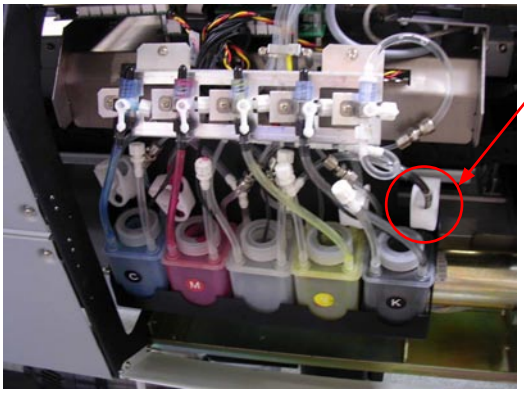
(2) From the submenu, select [**Clean Post**] and then press the **ENTER** key.

(3) The print head carriage moves to the cleaning position and then stops.

Checking that the clips on the sub tanks have been released

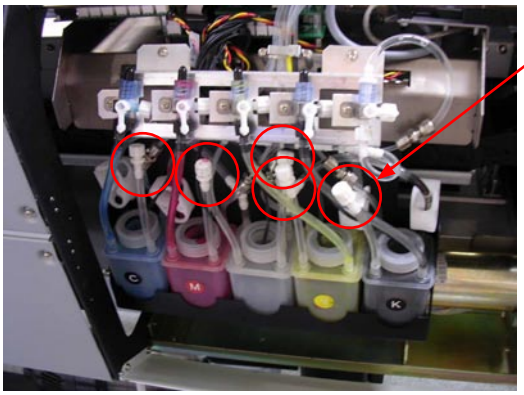
(4) Open the panel behind the cleaning position.

(5) Check that the tube clamper on each of the sub tanks is in the open position. If any of the clampers is in the closed position, open it.



Tube clamper:
Check that the clampers for all four colors are open.

(6) Check that all the tube caps are closed firmly.



Tube cap:
Tighten the caps using long-nose pliers.
Check that the tube caps for all five caps are closed firmly.

Pouring 150 to 200 cc of cleaning solution into each ink tank

(7) Pour 150 to 200 cc of cleaning solution into each of the four ink tanks (C, M, Y, K).

• 150 to 200 cc guideline amount: The level where the filter in the ink tank is covered.

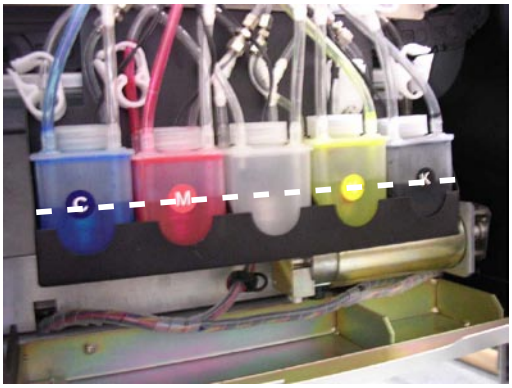
Feeding the cleaning solution to the sub tanks

(8) From the main menu, select [**Ink Status**] and then press the **ENTER** key. The "**No ink**" alarm sounds and then stops, and the ink pump operates to feed the cleaning solution to the sub tanks.

If the "**No ink**" alarm sounds once again, from the main menu, select [**Ink Status**] and then press the **ENTER** key once more. The alarm will stop sounding when the four sub tanks (C, M, Y, K) are filled with cleaning solution. At this time there will be no operating noise from the ink pump.

(9) Visually check that the sub tanks are sufficiently filled with cleaning solution.

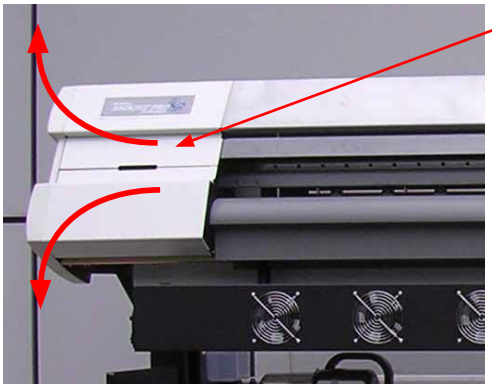
The tanks should be filled up to approximately the level indicated by the white line.



(10) Turn off the printer power supply.

Removing the print head carriage cover and the print head protector

(11) Open the panel in front of the cleaning position.



Cleaning position cover:
Open the front panel by raising the top half and lowering the bottom half.

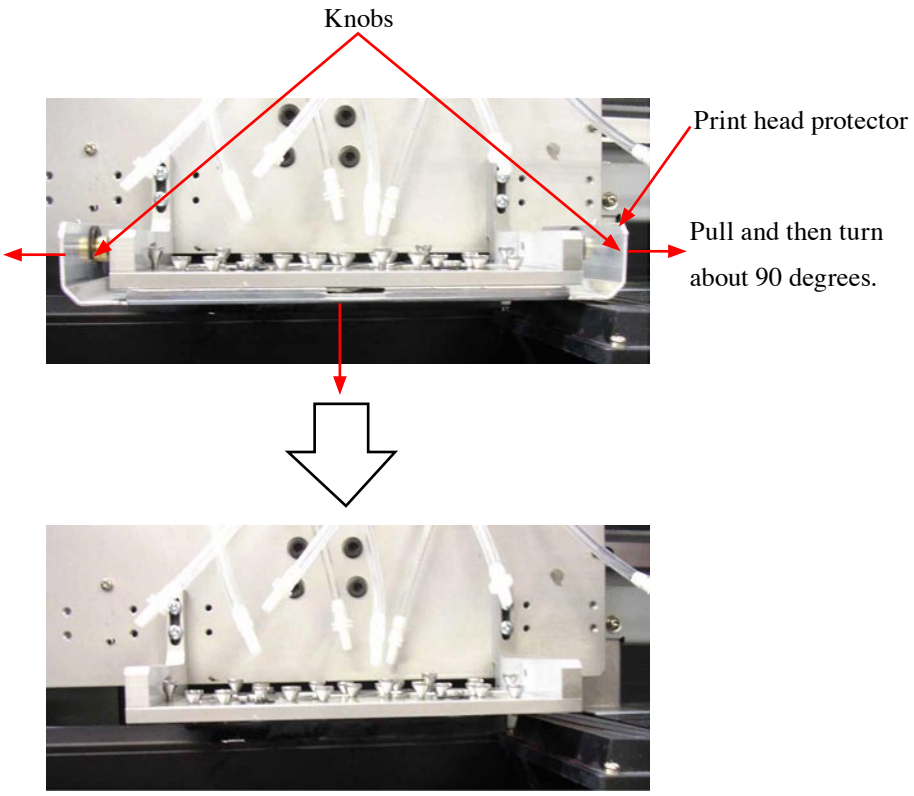
(12) Remove the two screws holding the print head carriage cover, and then detach the print head carriage cover.

Print head carriage cover

Remove the screws at the left and right sides and then detach the cover.

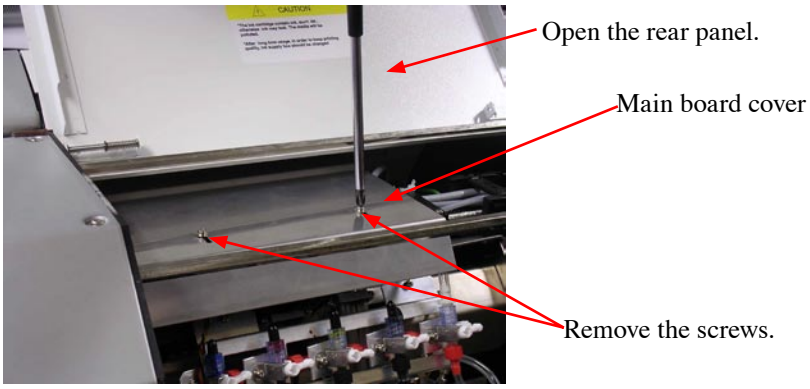
(13) Detach the print head protector.

Pull and then turn the knobs to detach the print head protector.

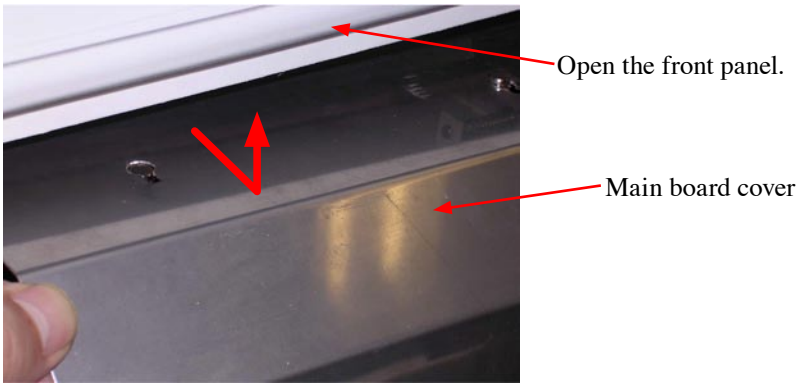


Connecting the inlet tubes

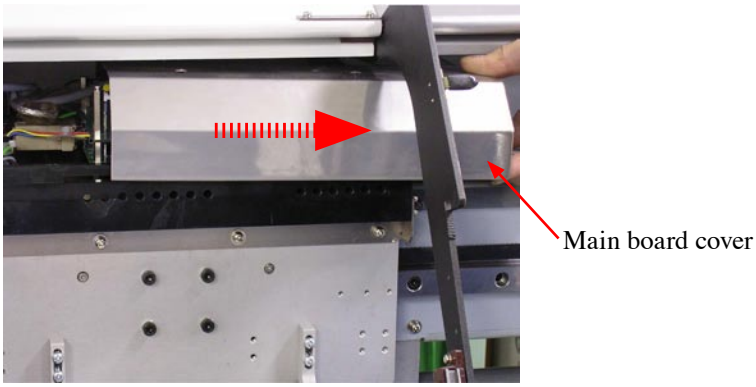
(14) Open the rear panel, and then remove the two screws holding rear of the main board cover.



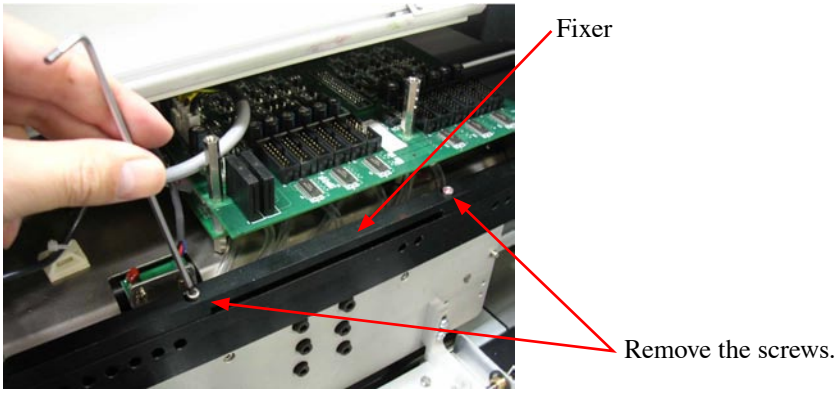
(15) Open the front panel, and then detach the main board cover from the grooved pins.



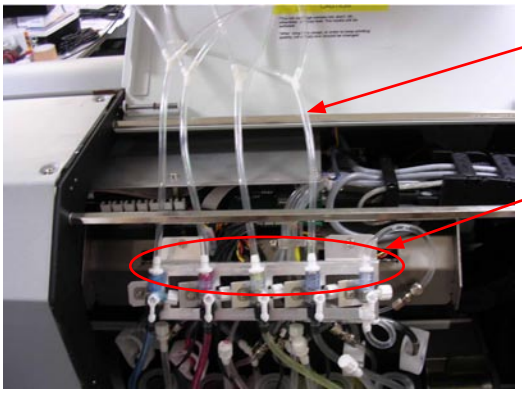
(16) Remove the main board cover from the right side as shown in the below picture.



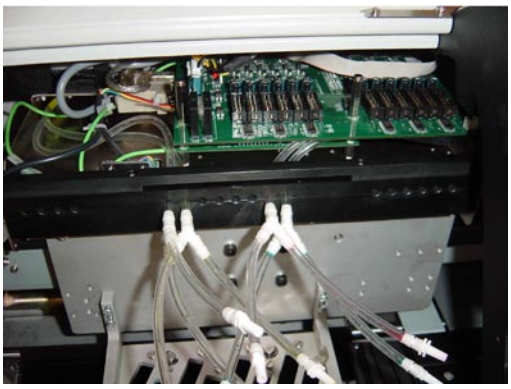
(17) Remove the two screws holding the fixer, and then detach the fixer.

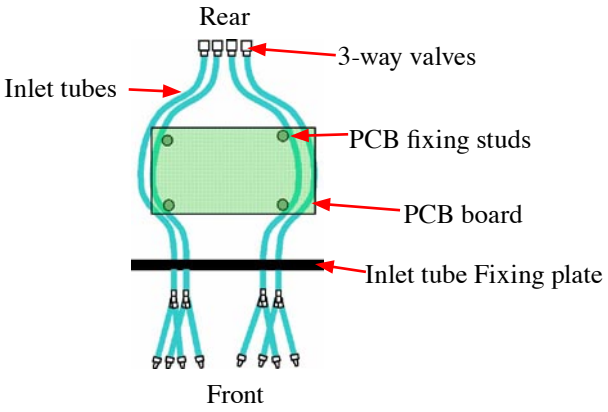


(18) Attach the four inlet tubes provided to the 3-way valves on the print head carriage.

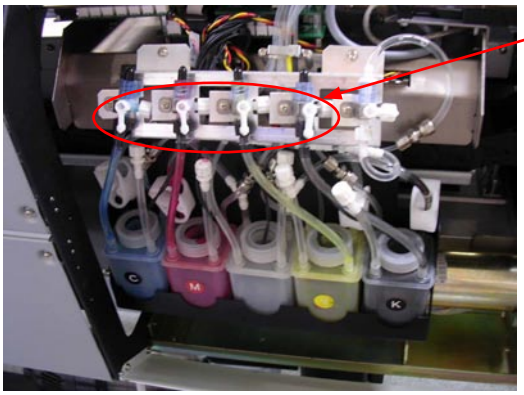


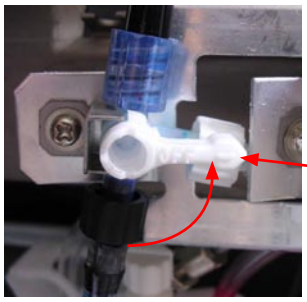
(19) Put the inlet tube through bottom of a board, and wire it forward as shown in the below picture.





(20) Set the 3-way valve for each ink tank to the ink supply position.





(21) Turn on the printer power supply.

When the power is turned on, the printer begins a self-test operation (the print head carriage and the feed rollers move). When the self test has been completed, wait until the main menu is displayed on the LCD.

Moving the print head carriage to the cleaning position

(22) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.

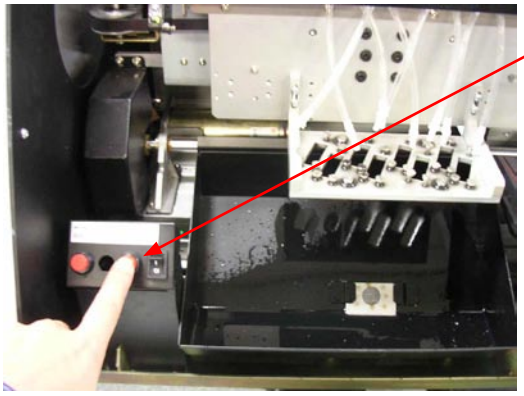
(23) From the submenu, select [**Clean Post**] and then press the **ENTER** key.

(24) The print head carriage moves to the cleaning position and then stops.

Feeding the cleaning solution in the sub tanks through the inlet tubes

(25) Position the end of each inlet tube so that it faces the waste liquid slot underneath.

(26) Press the Ink button at the cleaning position to feed the cleaning solution through the inlet tubes.
Continue to feed the cleaning solution through the tubes until they are clean (approximately 20 seconds).



⚠ **CAUTION:**

Take care not to get cleaning solution stains on your clothing.

Feeding out any cleaning solution remaining in the inlet tubes

(27) Press the Ink button to feed out any cleaning solution remaining in the inlet tubes. When the "**No ink**" alarm sounds, from the main menu, select [**Ink Status**] and then press the **ENTER** key to continue the cleaning solution removal operation.

(28) Continue feeding out the cleaning solution until the "No ink" alarm sounds once again.

(29) Turn off the printer power supply.

Empty out the cleaning solution from the sub tanks

⚠ CAUTION:

First of all, remove the waste ink tanks mounted in the printer, and then discard the cleaning solution from the sub tanks into the waste ink tanks.

(30) Remove the cap from each sub tank.

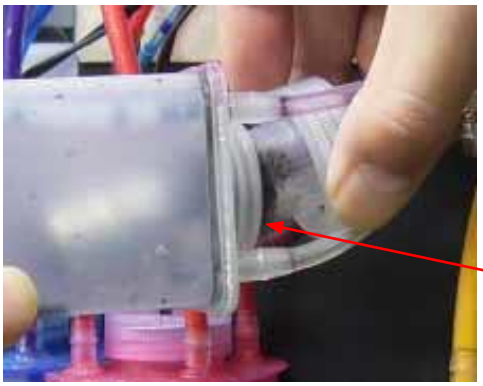
If the cap is difficult to remove, use pliers or similar to grip the cap and open it.

Pliers

⚠ CAUTION:

When opening the cap, be sure to grasp the upper corners of the tank.

(31) Empty out the cleaning solution from each sub tank.



Tilt the sub tank, and then pour the cleaning solution into the waste ink tank positioned underneath it.

(32) Reattach the cap on each of the sub tanks, and then leave them to dry out for at least 10 minutes.

6.2 Initial Cleaning of the Cleaning Solution Supply Tubes

(1) Turn on the printer power supply.

When the power is turned on, the printer begins a self-test operation (the print head carriage and the feed rollers move). When the self test has been completed, wait until the main menu is displayed on the LCD.

• Since ink has not yet been supplied to the printer, a "**No Ink**" alarm will sound after several minutes have elapsed. This alarm does not indicate a malfunction, and no action is required.

(2) Move the print head carriage to the cleaning position.

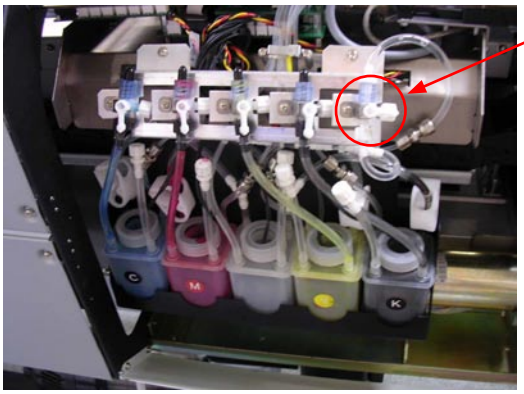
(a) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.

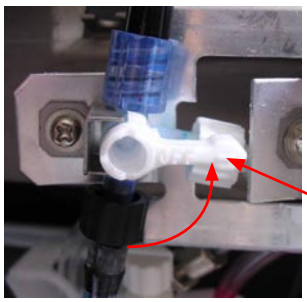
(b) From the submenu, select [**Clean Post**] and then press the **ENTER** key.

The print head carriage will move to the cleaning position and then stop.

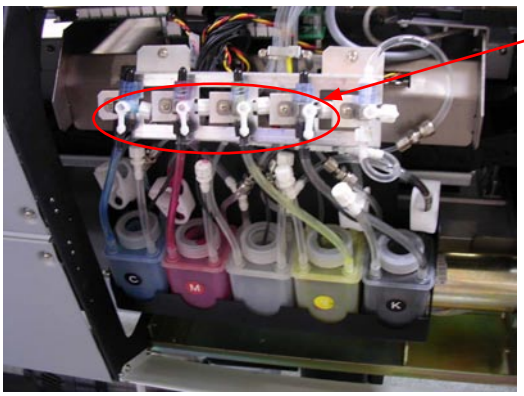
(3) Pour approximately 150 cc of cleaning solution into the solution tank.

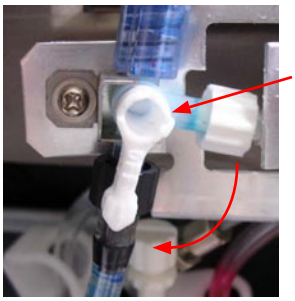
(4) Set the 3-way valve for the solution tank to the supply position.





(5) Set the 3-way valve for each ink tank to the cleaning position.

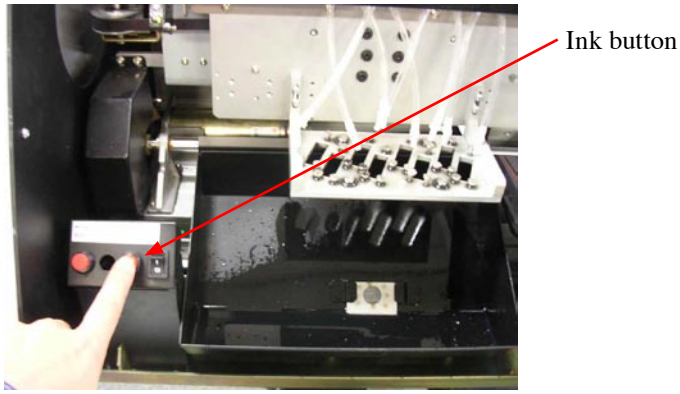




(6) Feed the cleaning solution through the inlet tubes.

(a) Position the end of each inlet tube so that it faces the waste liquid slot underneath.

(b) Press the Solution button at the cleaning position to feed the cleaning solution through the inlet tubes.



(c) Hold down the Solution button until the cleaning solution passes through the tubes.

⚠ **CAUTION:**

Take care not to get cleaning solution stains on your clothing.

(7) Empty out the cleaning solution from the solution tank.

⚠ **CAUTION:**

First of all, remove one of the waste ink tanks mounted in the printer, and then discard the cleaning solution from the solution tank into the waste ink tank.

(8) Feed out any cleaning solution remaining in the inlet tubes.

Press the Solution button once again to feed out any cleaning solution remaining in the inlet tubes.

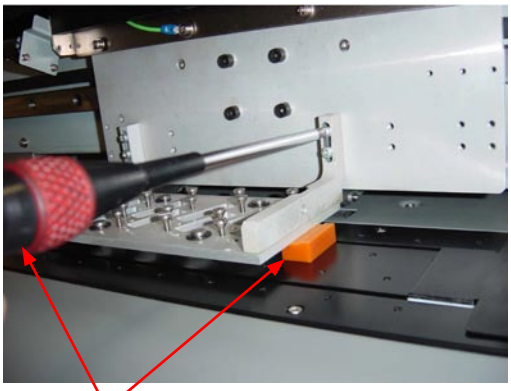
Continue holding down the button until all the fluid has been removed from the tubes.

6.3 Print head height Adjustment

Adjust the print head height using the print head height adjustment jig.

(1) Loosen the screws holding the print head frame.

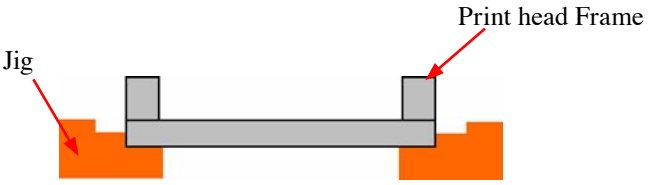
(2) Insert the print head height adjustment jig under the print head frame.



Head height adjustment Jig

(3) Adjust the print head height to the following position.

The height adjustment position



• When the head protector is not attached.

(Standard)

• When a print head rubs with the media.

• When the head protector is attached.

(4) Tighten the screws holding the print head frame.

6.4 Mounting the Print heads

• If the print head carriage is not at the cleaning position, move it to the cleaning position.

Moving the print head carriage to the cleaning position

(a) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.

(b) From the submenu, select [**Clean Post**] and then press the **ENTER** key.

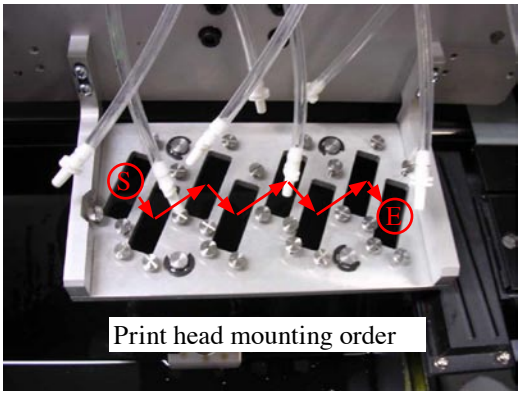
(1) Turn off the printer power supply.

Turn off the printer power supply before mounting the print heads.

• Performing the print head mounting operation while the power supply is on may result in damage to the printer or to the print heads. Make sure that the power supply is turned off.

(2) Mount the print heads in order from the left-hand side.

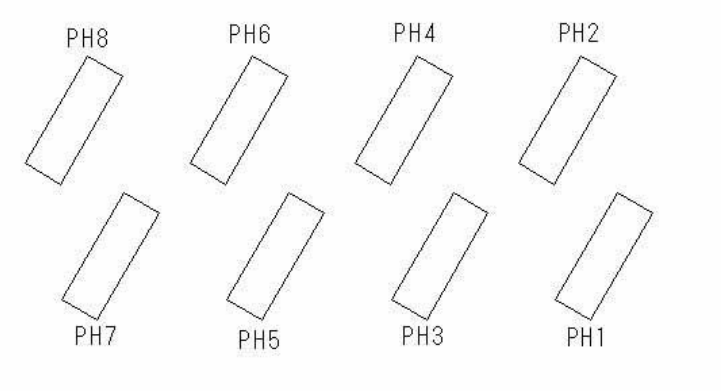
Mount the print heads in the order shown below, starting from the left-hand side. The procedure described below is the procedure for mounting one print head. Repeat the procedure of step from (3) to (10) for all eight print heads.



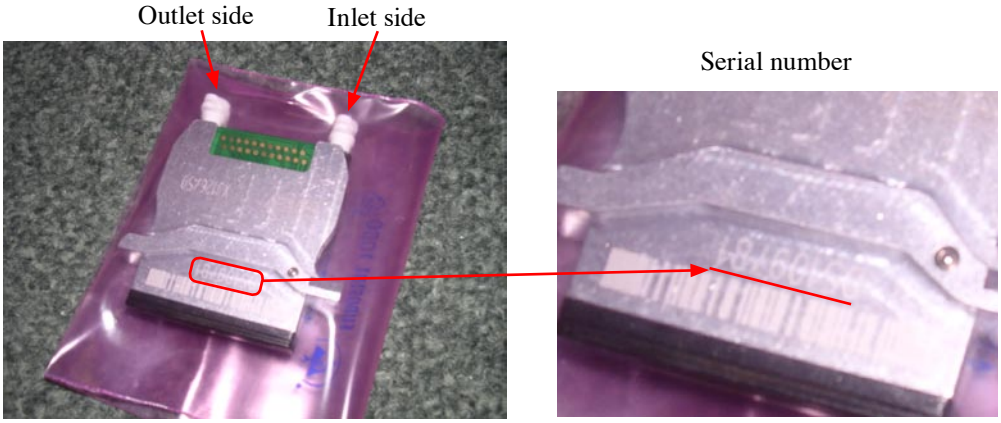
Print head mounting order

(3) Write down the print head mounting position and the serial number.

These will be required for a later procedure.

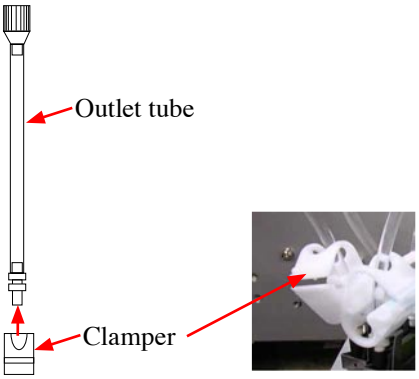


Print head mounting position

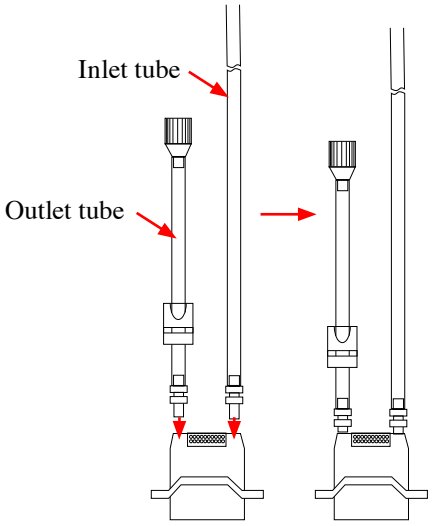


(4) Attach an outlet tube and tube clamper (provided as accessories) to the print head.

Leave the tube clamper open.

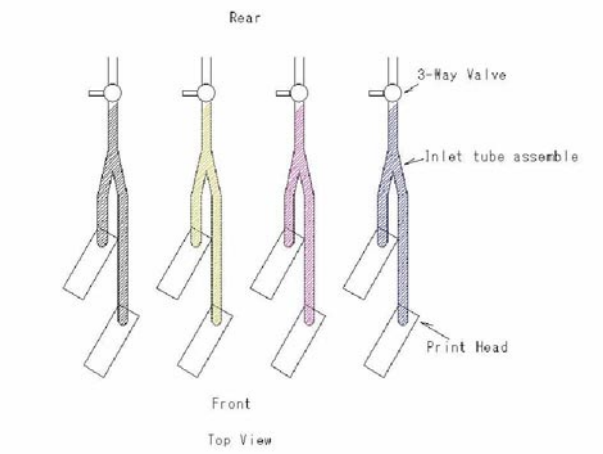


(5) Remove the caps attached to the print head, and then insert the inlet tube and outlet tube into the print head inlet.



⚠ CAUTION:

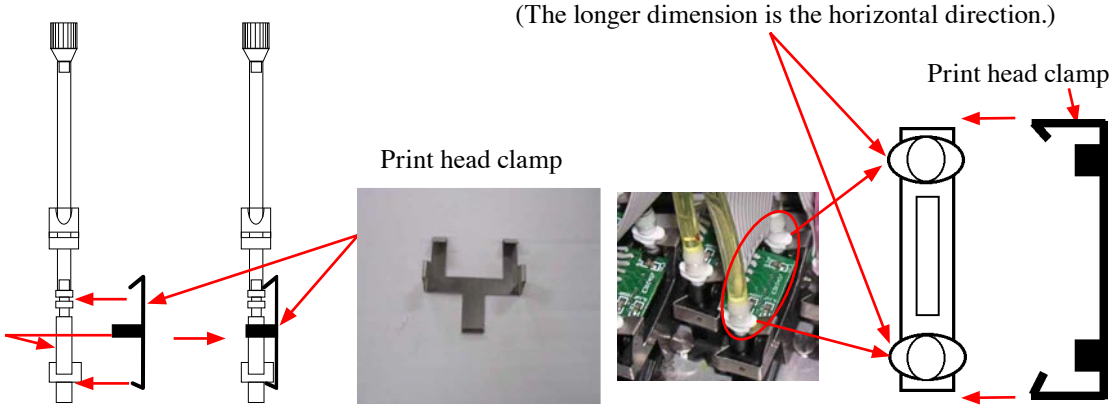
Do not mistake the color of tubes when connecting the inlet tubes.



(6) Attached to the print head clamper to the print head and the inlet tube joints.

Check the orientation.

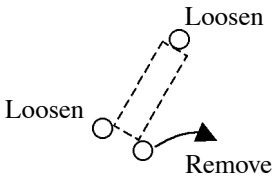
(The longer dimension is the horizontal direction.)



⚠ CAUTION:

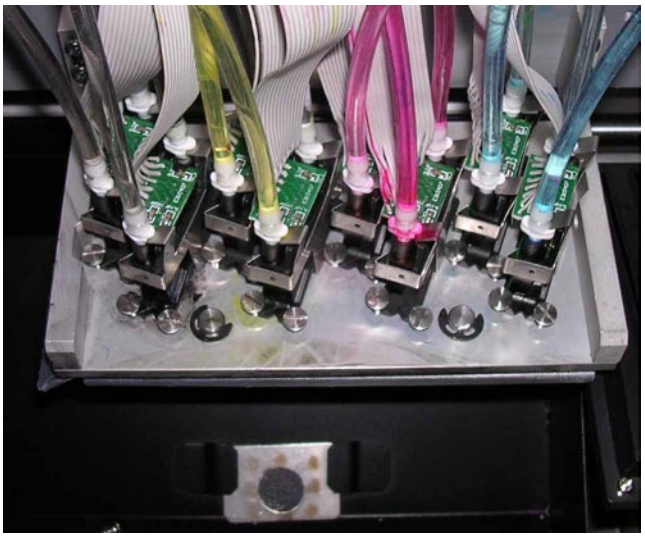
Do not touch the surface of the print head nozzles.

(7) Loosen the top and the left screws, and remove the right screw.



(8) Mount the print head, and then reattach the right screw.

(9) Tighten the top, left and right screws to fasten the print head in place.



6.5 Initial Print head Cleaning Procedure

A new print head contains a protecting liquid. Before using the print head, follow the procedure described below to clean the print head.

(1) Pour cleaning solution into the solution tank.

Pour a generous amount of cleaning solution into the solution tank.

Solution tank:
Pour a generous amount of cleaning solution into the tank, up to the level indicated by the white line.

(2) Turn on the printer power supply.

When the power is turned on, the printer begins a self-test operation (the print head carriage and the feed rollers move). When the self test has been completed, wait until the main menu is displayed on the LCD.

- Since ink has not yet been supplied to the printer, a "**No Ink**" alarm will sound after several minutes have elapsed. This alarm does not indicate a malfunction, and no action is required.

(3) Move the print head carriage to the cleaning position.

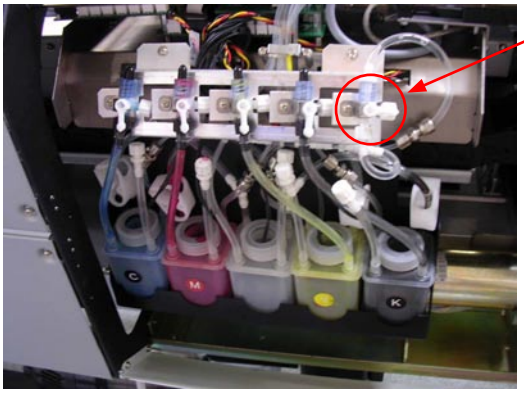
(a) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.

(b) From the submenu, select [**Clean Post**] and then press the **ENTER** key.

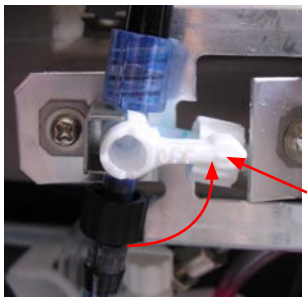
The print head carriage moves to the cleaning position and then stops.

(4) Check that the 3-way valve for the solution tank is set to the supply position.

- If the lever is at a different position, move it to the supply position.



Solution tank 3-way valve



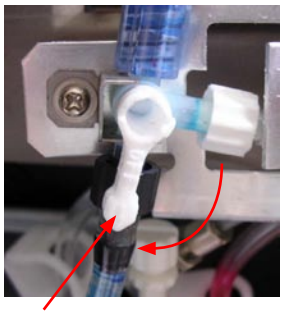
Turn to the supply position

(5) Clean the outlet tubes.

Follow the procedure described below to clean the cyan outlet tube. Clean the magenta, yellow and black outlet tubes in the same way.

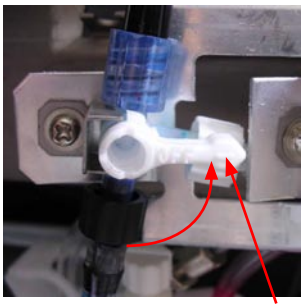
(a) Set the lever of the 3-way valve for the cyan ink tank to the cleaning solution supply position. Set the lever on all the other 3-way valves to the ink supply position.

Cyan ink 3-way valve only



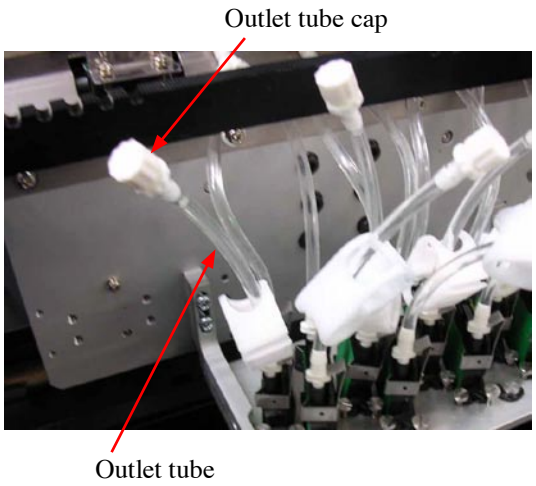
Turn to the solution supply position

All other 3-way valves

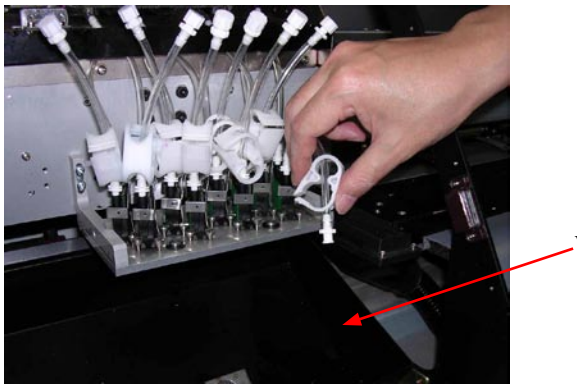


Turn to the ink supply position

(b) Remove the cap from the one (cyan) of the outlet tubes.



(c) Position the open end of the outlet tube so that it is facing the waste liquid slot.



(d) Press the Solution button to feed the cleaning solution through the outlet tube.

Continue to hold down the Solution button until the cleaning solution flows out of the outlet tube.

• Cleaning solution may be emitted from the print head nozzles.

⚠ CAUTION:

Take care not to get cleaning solution stains on your clothing.

(e) Reattach the outlet tube cap that was removed in Step (b), and then remove the cap from the second outlet tube.

(f) Press the Solution button in the same way as described in Step (d) to feed cleaning solution through the outlet tube. Position the open end of the outlet tube so that it is facing the waste liquid slot.
Continue to hold down the Solution button until the cleaning solution flows out of the outlet tube.
• Cleaning solution may be emitted from the print head nozzles.

⚠ CAUTION:

Take care not to get cleaning solution stains on your clothing.

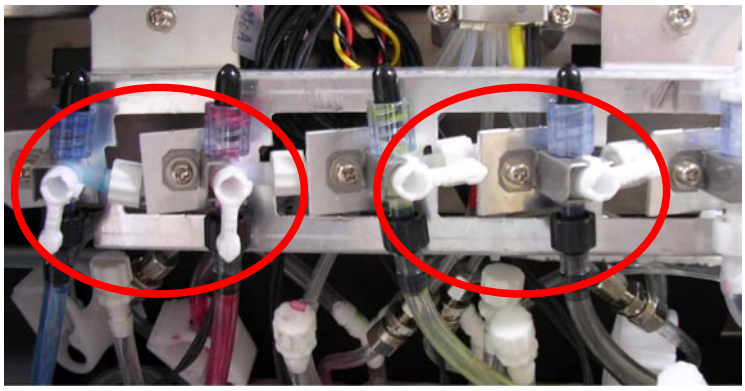
(g) Reattach the outlet tube cap to the outlet tube.

(h) Clean the magenta, yellow and black outlet tubes in the same way.

(6) Clean the print head nozzles.

(a) Set the levers on the cyan and magenta 3-way valves to the cleaning solution supply position.

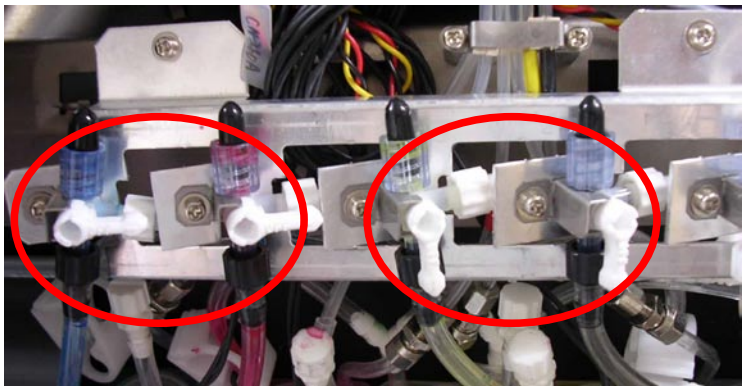
(b) Set the levers on the yellow and black 3-way valves to the ink supply position.



(c) Press the Solution button to feed cleaning solution through the cyan and magenta print head nozzles.
Hold down the Solution button until the cleaning solution flows out of all four print heads.

(d) Set the levers on the yellow and black 3-way valves to the cleaning solution supply position.

(e) Set the levers on the cyan and magenta 3-way valves to the ink supply position.



(f) Press the Solution button to feed cleaning solution through the yellow and black print head nozzles.
Hold down the Solution button until the cleaning solution flows out of all four print heads.

(7) Leave the print heads in this status for 10 minutes to ensure that the protecting liquid is completely dissolved.
Leave the print heads in this status for 10 minutes.

(8) Feed out any cleaning solution remaining in the print heads.
Using the procedure described in step (6) above, feed out any remaining cleaning solution from all of the print head nozzles.

6.6 Ink Induction

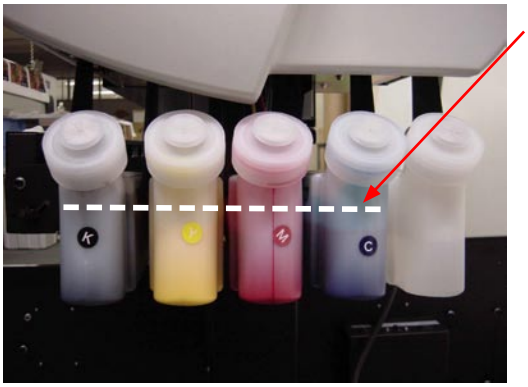
- If the power supply is turned off, turn it on and then move the print head carriage to the cleaning position.
- Since ink has not yet been supplied to the printer, a "**No Ink**" alarm will sound after several minutes have elapsed. This alarm does not indicate a malfunction, and no action is required.

(1) Pour ink into the ink tanks.

Pour a generous amount of ink into each ink tank. Make sure that the ink color matches the color code label on each of the tanks.

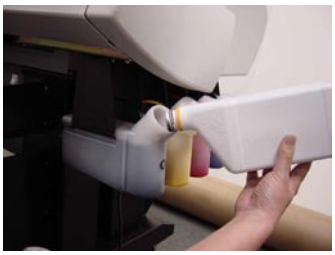
⚠ **CAUTION:**

Make sure that you do not get ink stains on your clothing.



Ink tanks

Pour a generous amount of ink into each tank, up to the level indicated by the white line.



(2) Feed the ink to the sub tanks.

From the main menu, select [**Ink Status**] and then press the **ENTER** key.

The "**No ink**" alarm sounds and then stops, and the ink pump operate to feed the ink to the sub tanks.

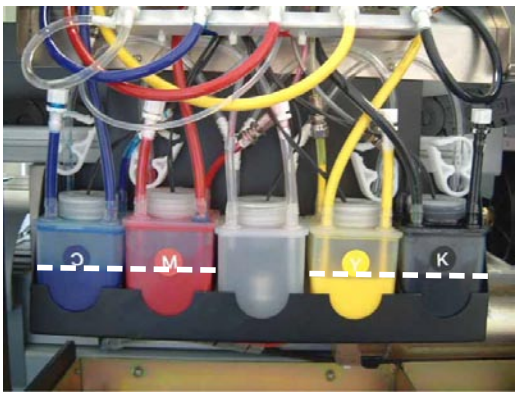
If the "**No ink**" alarm sounds once again, from the main menu, select [**Ink Status**] and then press the **ENTER** key once more.

The alarm will stop sounding when the four sub tanks (C, M, Y, K) are filled with ink.

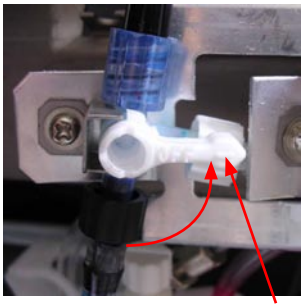
At this time there will be no operating noise from the ink pump.

(3) Visually check that the sub tanks are sufficiently filled with ink.

The tanks should be filled up to approximately the level indicated by the white line.



(4) Set the levers of the 3-way valves for each ink tank to the ink supply position.



Turn to the ink supply position

(5) Feed ink through the outlet tubes.

Perform the following procedure for both outlet tubes on each of the print heads.

(a) Remove the outlet tube cap.

(b) Position the open end of the outlet tube so that it is facing the waste liquid slot.

(c) Press the Ink button located at the cleaning position to feed ink through the outlet tube.

• Hold down the Ink button for approximately 10 seconds.

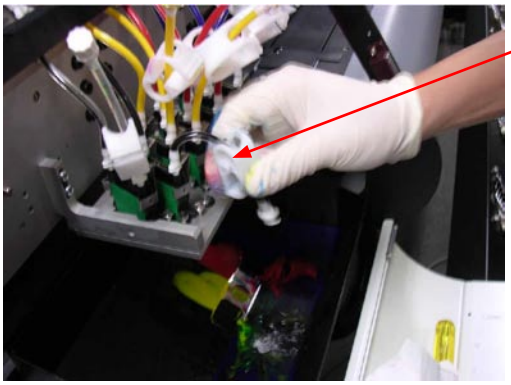
• Ink may be emitted from the print heads.

⚠ **CAUTION:**

Take care not to get ink stains on your clothing.

(d) Press the Ink button once again. When ink flows out of the outlet tube, firmly close the tube clamper.

Make sure not to allow any air to enter the outlet tube.



Close the tube clamper.

(e) Reattach the outlet tube cap, and then tighten the caps using long-nose pliers.

(f) Open the tube clamper on the outlet tube.

(6) Feed ink through the nozzles.

Check that all the outlet tube caps have been firmly inserted.

Press the Ink button once again to feed ink through all the nozzles.

(7) Use the brushes provided to clean the surface of all the print head nozzles.

Printing will not be performed correctly if the nozzle surfaces are wet. Use the brushes provided to wipe the nozzles clean.

⚠ **CAUTION:**

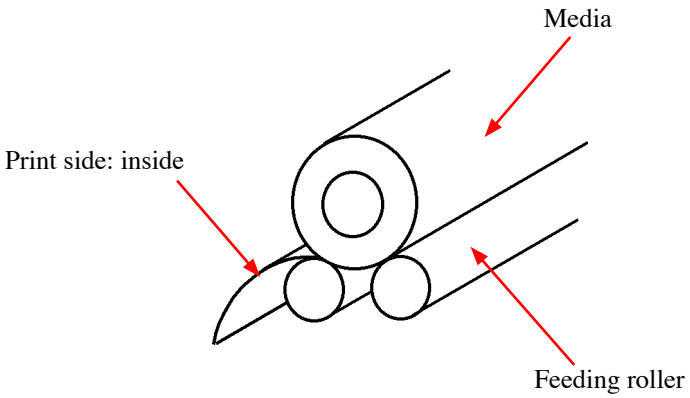
If the print heads will not be used for a long period of time, attach the wet keeping frame to the print head carriage (see "Maintenance of print head Manual").

7. Media Loading Procedure

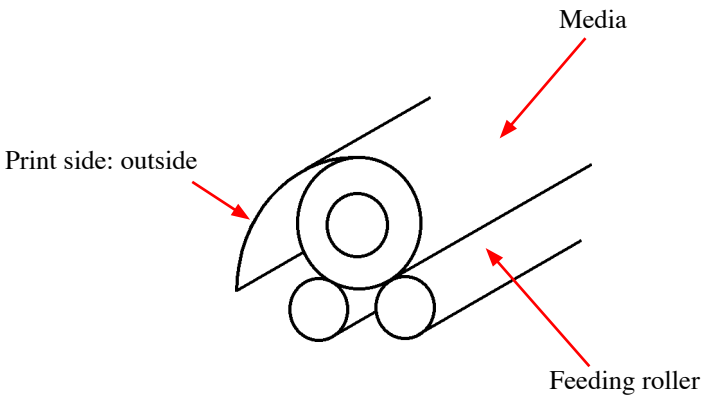
7.1 Loading the Media

(1) Mount the media on the media feeding rollers as shown in the figure below.

• Inside wound



• Outside wound

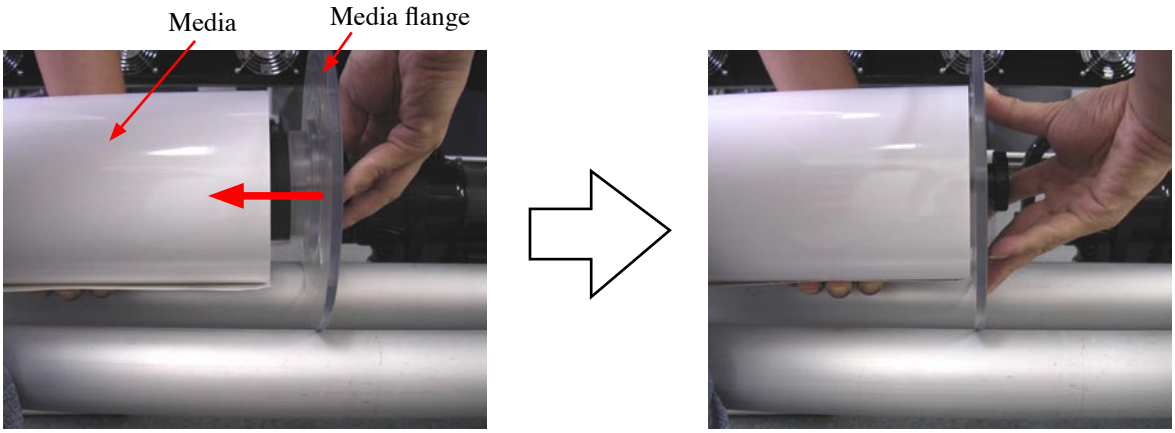


⚠ CAUTION:

As the media is heavy, at least two persons are required for the loading operation.

Take care not to drop the roll. Dropping the roll on your foot may result in injury.

(2) Insert the media flange into a madia roll.



(3) Turn the knob to the red arrow direction to fix the media flange firmly.

(4) Insert the media flange to the other side of media roll likewise.

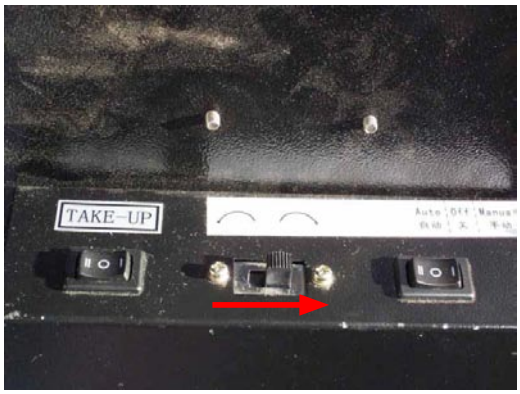
Note: Don't use the media flanges when the media may be bended beneath the burden of its weight. May be wrinkled up the media by the heavy roll media.

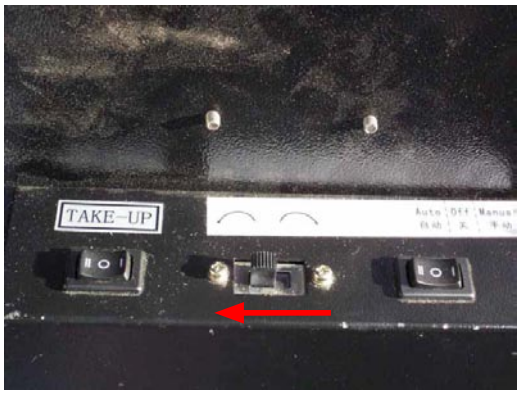
(5) Feed the media a distance of approximately 1 m.

Use the following procedure to feed the media a distance of approximately 1 m.

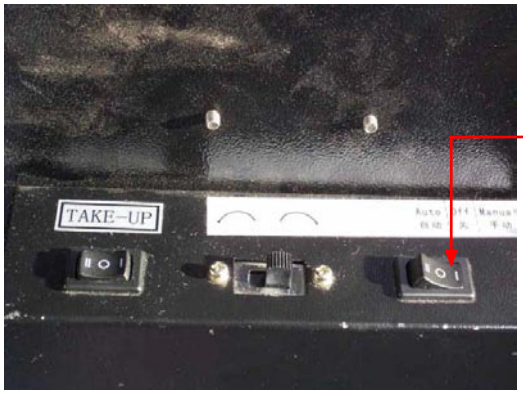
(a) Set the rotation direction switch on the media feeding system.

Inside wound media: [ ] direction **Outside wound media: [ ] direction**

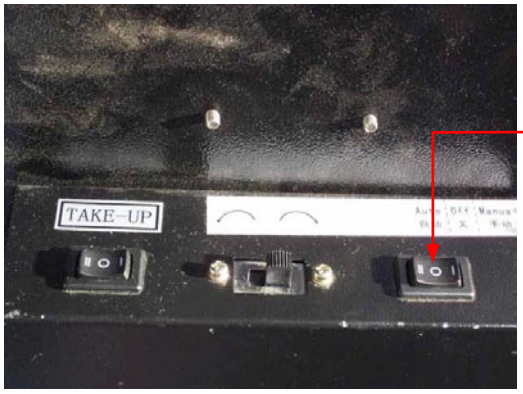




(b) Press down the “I” (Manual) side of the selector switch on the media feeding system.



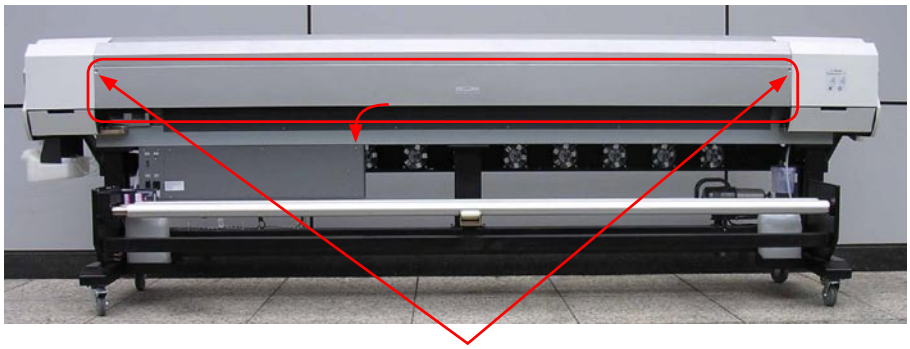
(c) When the media has been fed approximately 1 m, return the selector switch to the position between the “II” and “I” markings (the OFF position, “O”).



(6) Load media on the platen surface.

(a) Raise the press roller control lever.

(b) Remove the screws from the flap at the rear of the printer and open the flap.



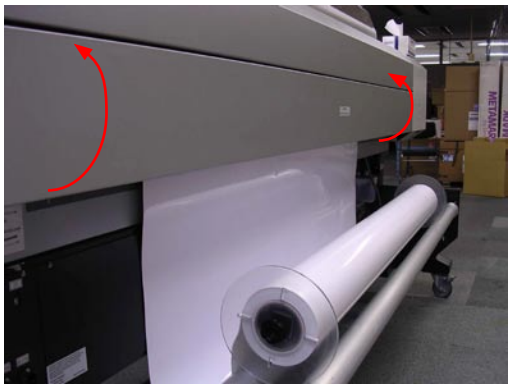
Remove these two screws and open the flap.

(c) Insert the leading edge of the media from the rear of the printer towards the front.

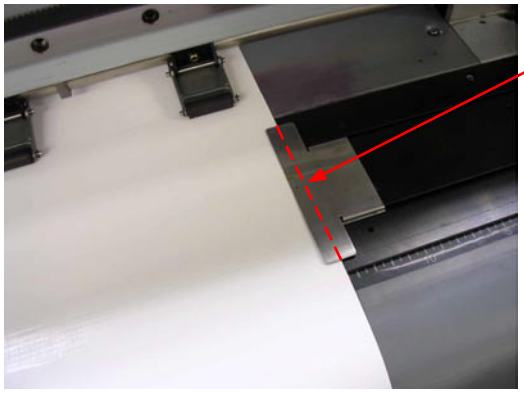
(d) Align the left edge of the media with the rear guide and front guide scales at the left of the printer, making sure that the media is not loaded at an angle.

(e) Lower the press roller control pole to hold the media in place.

(f) Close the flap and Replace the screws to the flap at the rear of the printer.



(g) Align the media edge guards with the left and right edges of the media.



Slide each media edge guard to approximately the position indicated by the dotted line.

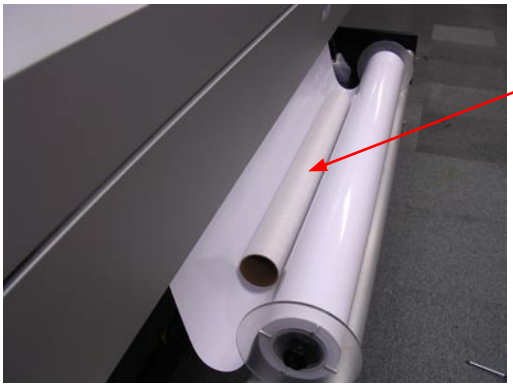
7.2 Adjusting the auto feed function

(1) Feed the media manually.

Press down the “I” side (Manual) of the selector switch on the media feeding system.

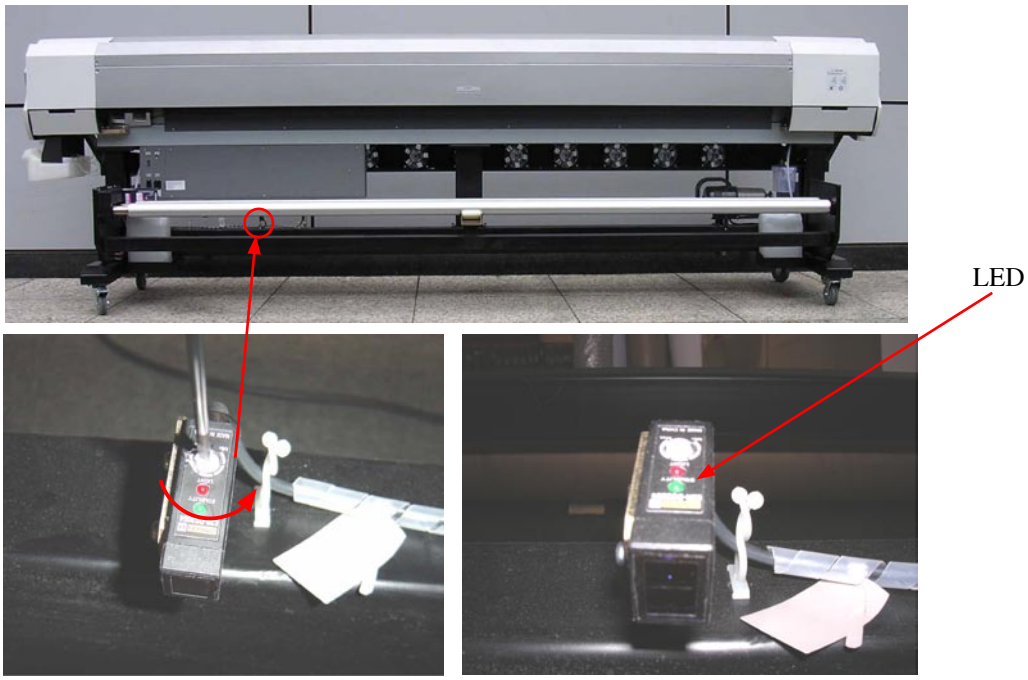
When the media has passed over the media sensor (or just before the media reaches the floor), return the selector switch to the position between the “II” and “I” markings (the OFF position, “O”).

(2) Place the empty core provided on top of the media as shown in the picture below.



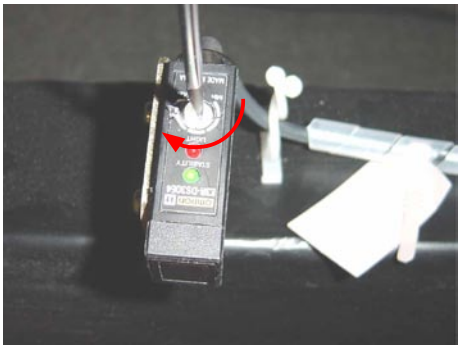
(3) Use a screwdriver to turn the trimmer fully to the left for the rear media sensor.

The orange LED goes out (only the green LED remains lit).



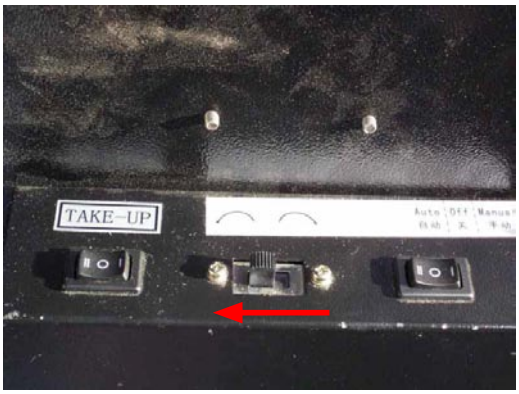
(4) Gradually return the trimmer to the right.

Stop at the position where the orange LED lights.

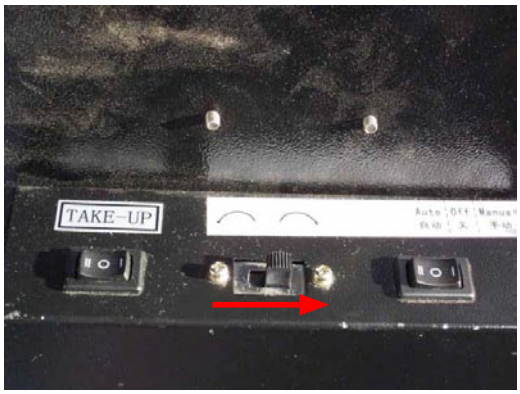


(5) Set the rotation direction switch on the media feeding system to the direction opposite to the direction set earlier.

Inside wound media: [ ] direction



Outside wound media: [ ] direction

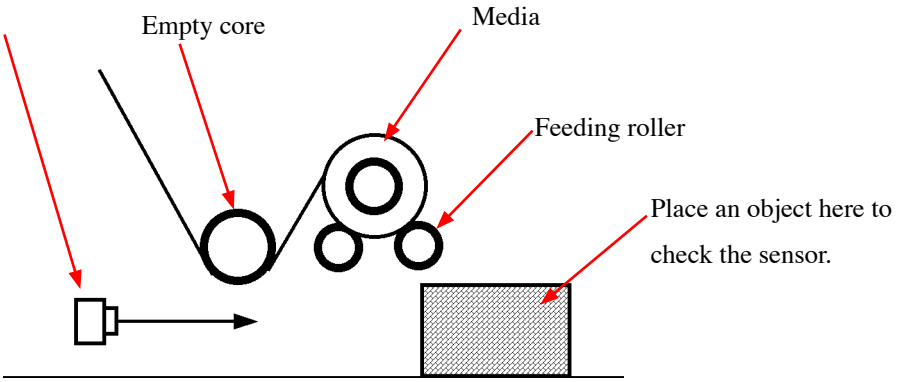


(6) Rewind the media manually.

Set the selector switch on the media feeding system to the "I" (Manual) position, rewind the media to the position where the orange LED does not light, and then return the selector switch to the position between the "II" and "I" markings (the OFF position, "O").

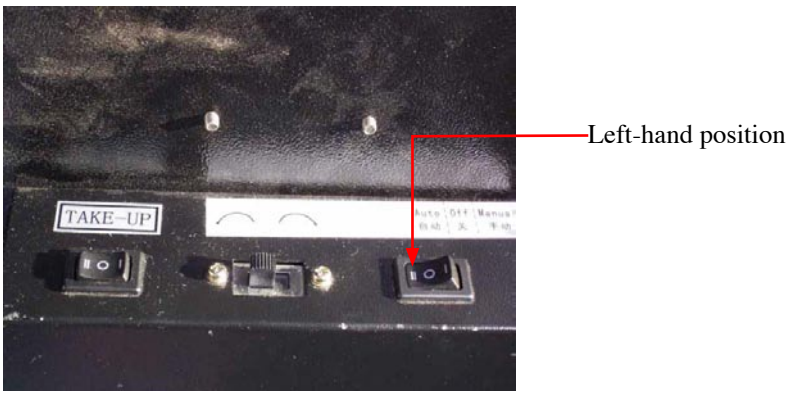
(7) Check that the orange LED does not light even if an object is placed behind it.

Check that the orange LED does not light even if an object is placed behind the sensor.



(8) Check that the media stops at the sensor after it has been fed automatically.

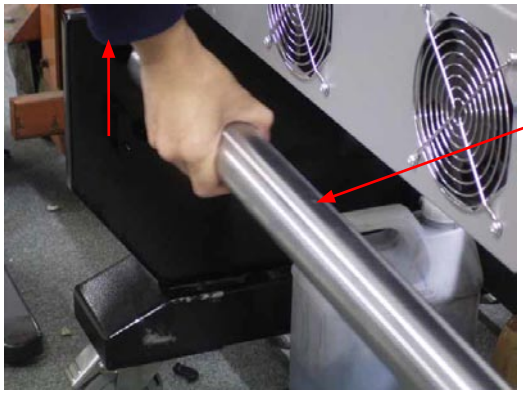
Set the selector switch on the media feeding system to "II" (Auto).



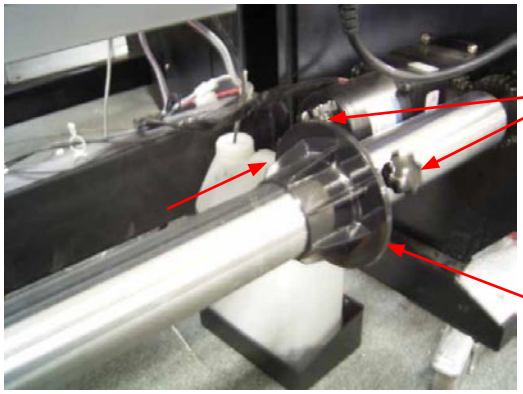
7.3 Winding the Media onto the Take-up Unit

(1) Mount the take-up core flanges and the take-up core.

(a) Raise the take-up roller at the left-hand side and remove it.

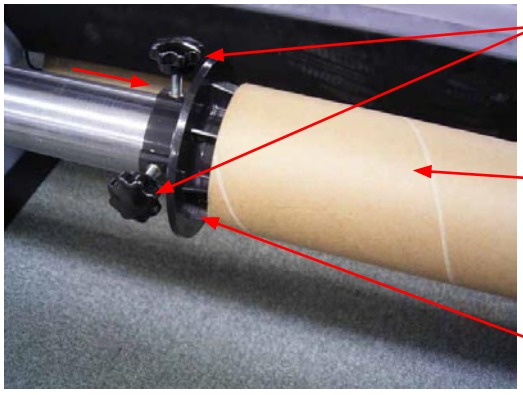


(b) Slide one of the flanges onto the roller and then fasten it in place at the right.



(c) Insert the take-up core onto the right flange.

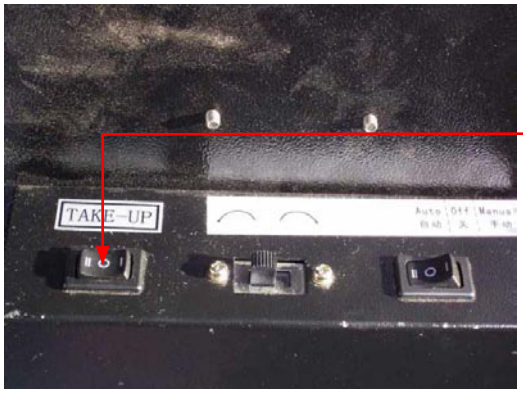
(d) Insert the other flange into the left edge of the take-up core.



(e) Return the take-up roller to its original position.

(2) Feed the media up to the take-up roller position.

(a) Set the take-up roller selector switch to the position between the “II” and “I” markings (the OFF position, “O”).



(b) From the main menu, select [**Print Para**] and then press the **ENTER** key.

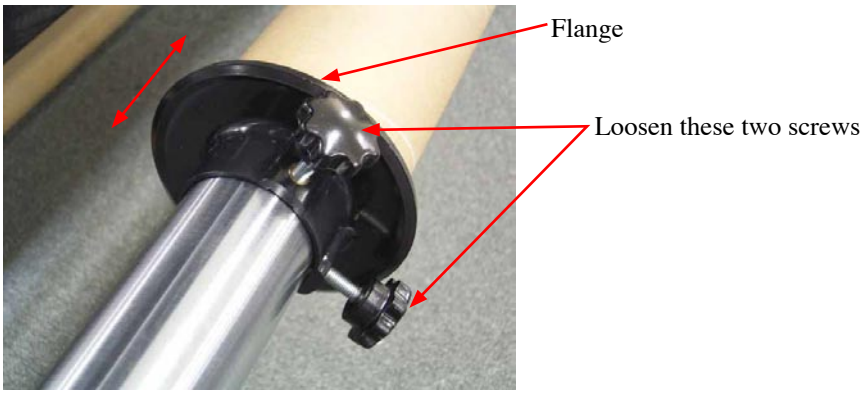
(c) From the submenu, select [**Print Post**] and then press the **ENTER** key.

(d) While holding down the **FUNC** key, press the **DOWN** ARROW key to feed the media.

(f) When the media has reached the take-up roller position, with a little extra length added to facilitate the take-up operation, release the keys.

(3) Align the take-up core with the media width.

Loosen the flange screws, and align the take-up core with the width of the media.



(4) Use a length of tape to attach the leading edge of the media to the take-up core.

(5) Place an empty core on top of the media to provide winding tension.

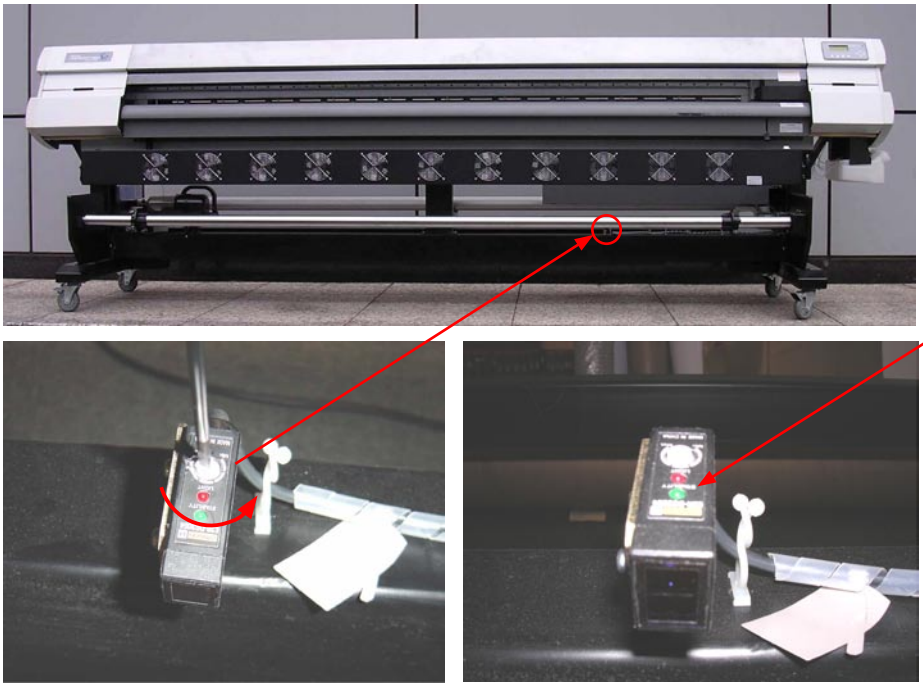
7.4 Adjusting the auto take-up function

(1) Manually feed the media until it passes over the sensor (or until just before it reaches the floor).

While holding down the **FUNC** key, press the **DOWN** ARROW key.

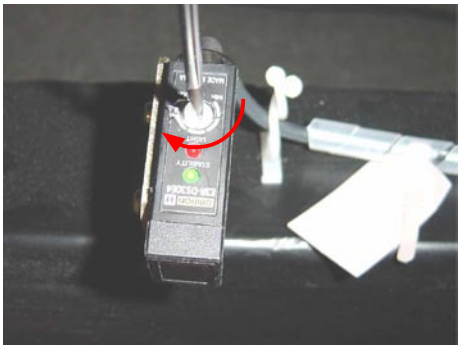
(2) Turn the trimmer fully to the left.

The orange LED goes out.



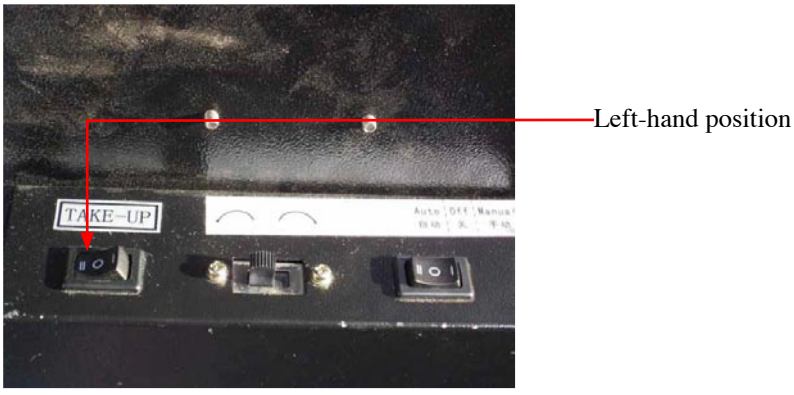
(3) Gradually return the trimmer to the right.

Stop at the position where the orange LED lights.

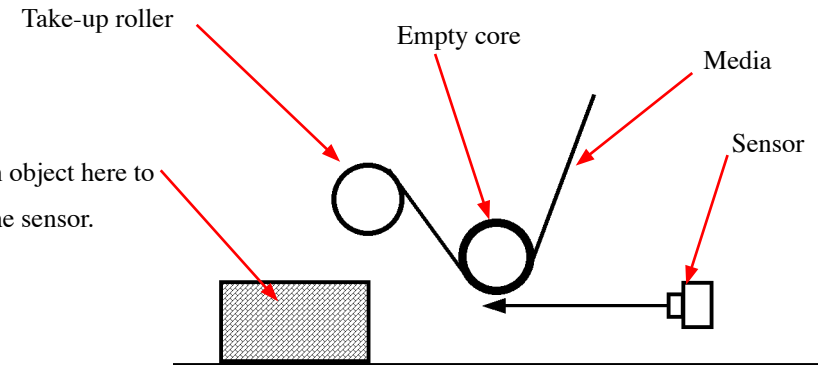


(4) Check that the media stops at the sensor after it has been automatically taken up.

Set the selector switch on the take-up unit to “II” (Auto).



(5) Check that the media is not taken up when an object is placed in front of the sensor.



The take-up roller does not take up the media even when an object is placed in front of the sensor.

7.5 Setting the Media Width

⚠ CAUTION:

If the power supply has been turned off, remove the wet keeping frame, and then turn on the power supply.

(1) Enable the media width detection function.

(a) From the main menu, select [**Application**] and then press the **ENTER** key.

(b) From the submenu, select [**Media Detect**] and then press the **ENTER** key.

(c) Select "**ON**", and then press the **ENTER** key.

(2) Detect the media width.

(a) Raise the pinch rollers, and then lower them.

(b) The loaded media is detected, and the following screen appears.

Menu	Media Detect
Warm2	Star: 0000mm
	Lenth: 0000mm
OFFLINE	

(c) Press the **ENTER** key to start the media detection operation.

(d) When the media has been detected, "**OK**" is displayed on the screen.

If you want to cancel the media detection operation, press the **ESC** key.

If the printer was not able to detect the media correctly, "**Error**" is displayed on the screen.

If this happens, check the media loading position and then perform the media detection operation once again.

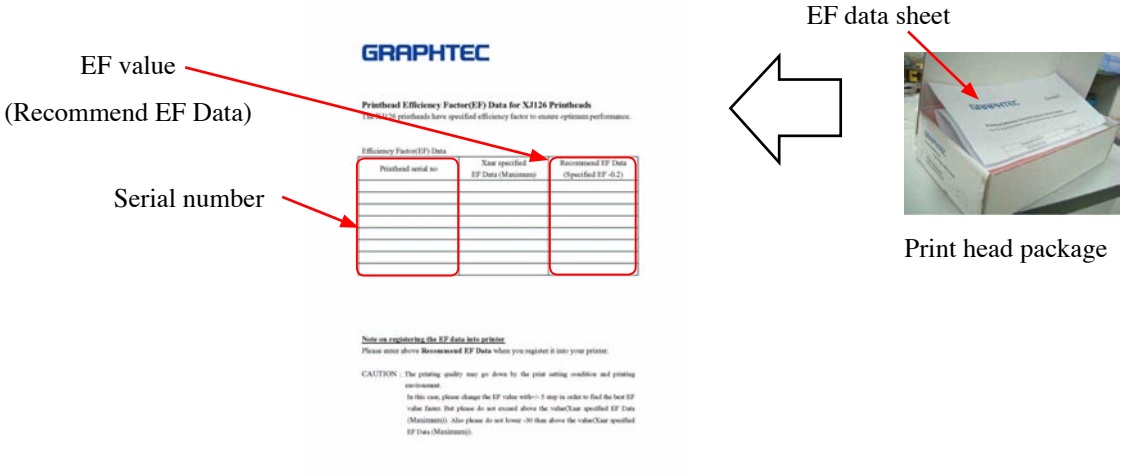
8. Print head Adjustment Procedures

8.1 Setting the Print head Drive Voltage

The optimum drive voltage varies with each print head. Follow the procedure given below to register the EF values printed EF data sheet; “Print head Efficiency Factor (EF) Data for XJ126 Print heads” into the print head package to the printer.

⚠ CAUTION:

If the power supply has been turned off, remove the wet keeping frame, and then turn on the power supply.



(1) From the main menu, select [**Print Para**] and then press the **ENTER** key.

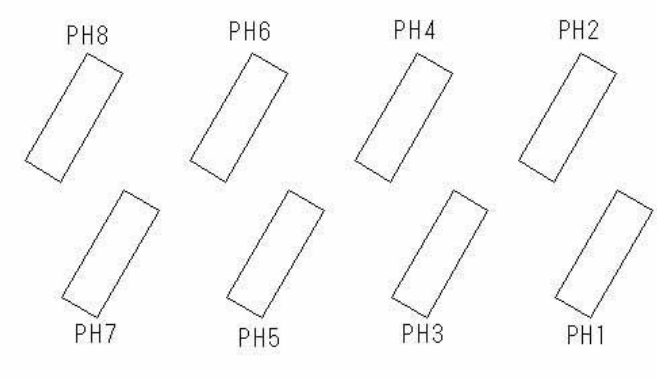
(2) From the submenu, select [**PH Volt Set**] and then press the **ENTER** key.

(3) Enter the EF values for **PH1** to **PH8**, and then press the **ENTER** key.

⚠ CAUTION:

Enter the “Recommend EF Data” when you register it into your printer.

Example: If the Recommend EF Data is 0.85, enter 0085.



Print head mounting position

(4) Return to the main menu, select [**Application**], and then press the **ENTER** key.

(5) From the submenu, select [**Curve of ink**] and then press the **ENTER** key.

(6) Select “0003 Xr2S JS”, and then press the **ENTER** key.

8.2 Installing the Printer Adjustment Utility Software “Try”

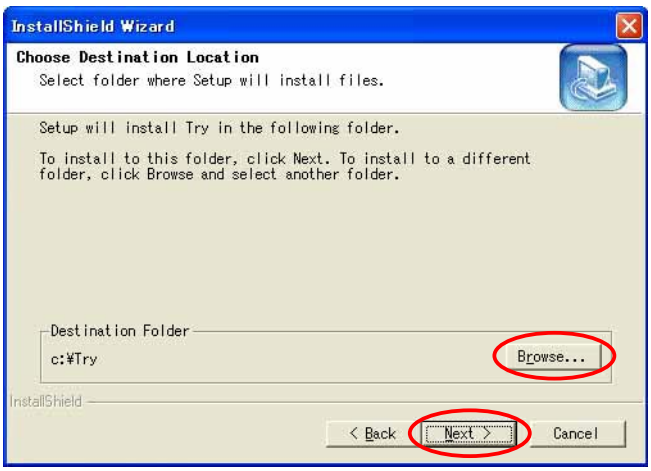
⚠ CAUTION:

Do not connect the printer via the USB cable to your computer before installing the “Try USB driver”.

(1) Insert the “Try” CD in your computer’s CD drive.

(2) Double-click the icon of setup.exe in the “Try Setup.Graphtec V*.*” folder to run the Setup.

(3) Specify the destination folder on the following display, and then click the “Next >”.

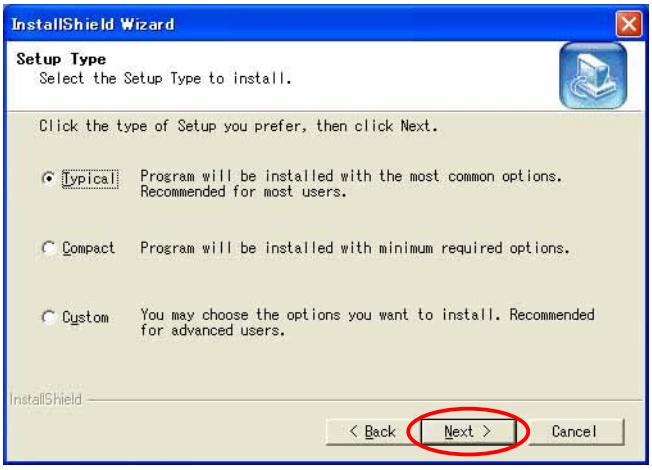

InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install Try in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
c:¥Try
Browse...
InstallShield
< Back
Next >
Cancel

(4) Select the setup mode at the following displays, and then click the “Next >”.

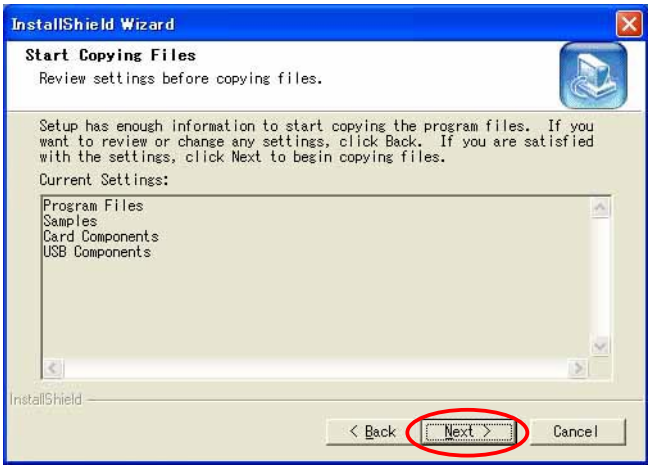
Typical: Installs the “Program Files”, “Samples”, “Card Components” and “USB Components” files. (Recommended).

Compact: Installs the “Program Files” files.

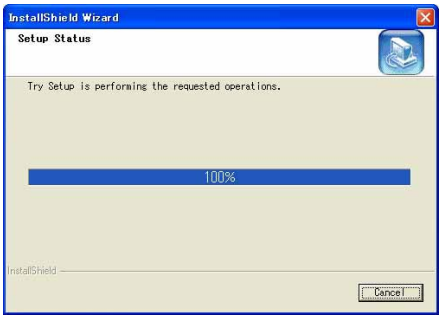
Custom: Installs the files selected from “Program Files”, “Samples”, “Card Components” and “USB Components”.


InstallShield Wizard
Setup Type
Select the Setup Type to install.
Click the type of Setup you prefer, then click Next.
Typical
Program will be installed with the most common options. Recommended for most users.
Compact
Program will be installed with minimum required options.
Custom
You may choose the options you want to install. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

(5) Confirm installing software at the following display, and then click the “Next >”.


InstallShield Wizard
Start Copying Files
Review settings before copying files.
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
Program Files
Samples
Card Components
USB Components
InstallShield
< Back
Next >
Cancel

The Setup Status appears.



(6) When installation has been completed, the following screen appears.

Before you use the “Try” utility, you must restart your computer.

Select “Yes, I want to restart my computer now.” and then click “Finish” to restart your computer.

InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Try. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

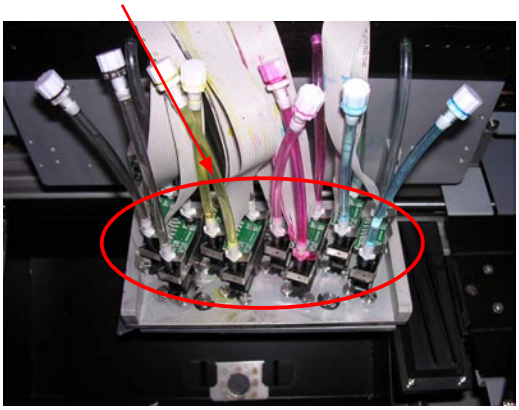
(7) Use the USB cable provided to connect the printer’s USB port directly to the computer’s USB port.

8.3 Connecting the Print Heads

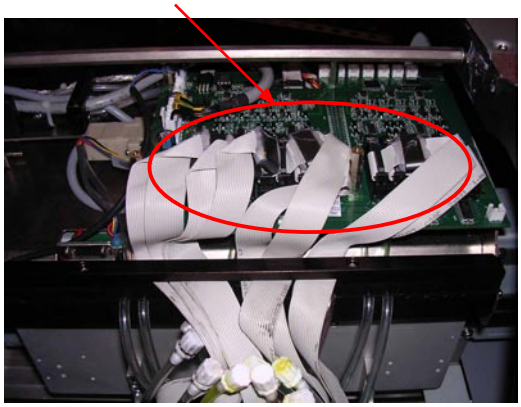
(1) Turn off the printer power supply.

(2) Connect the print head cables provided as shown in picture below.

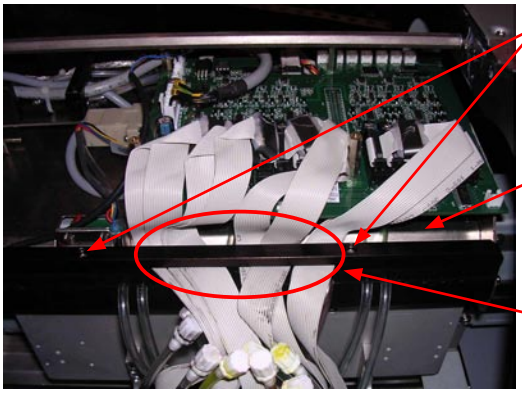
Connect each print head cables to each print heads.



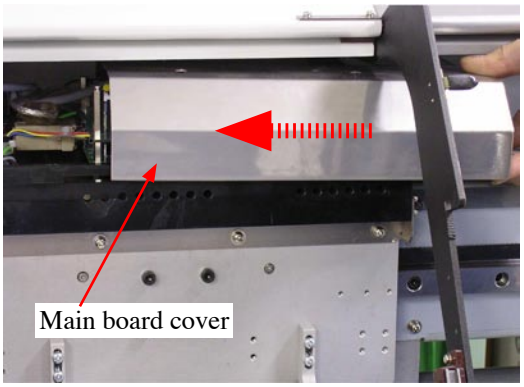
Connect each print head cables to the print head carriage PCB connectors.

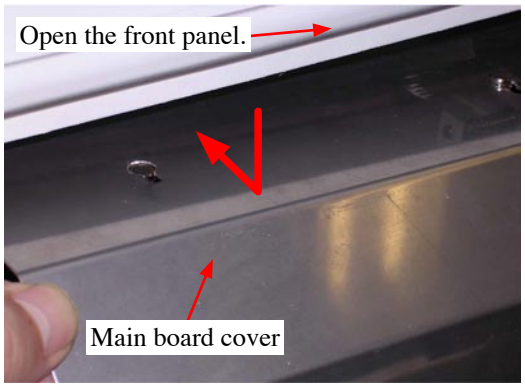


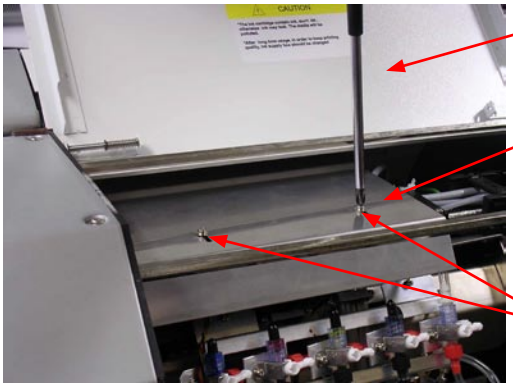
(3) Attach the fixer as shown in picture below.



(4) Attach the main board cover as shown in picture below.







8.4 Launching the Try Utility

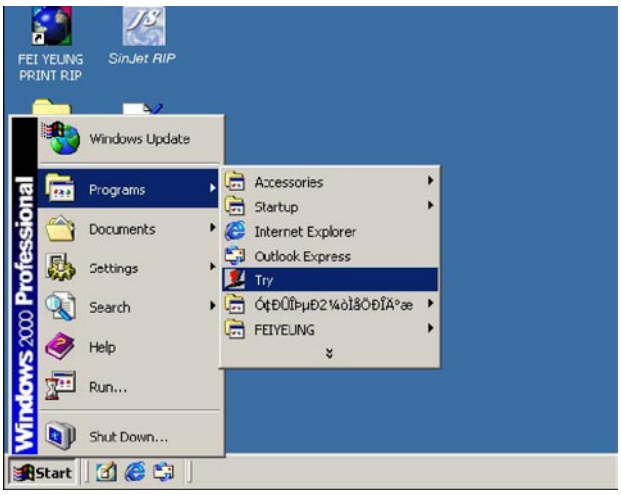
(1) Turn on the printer power supply.

⚠ **CAUTION:**

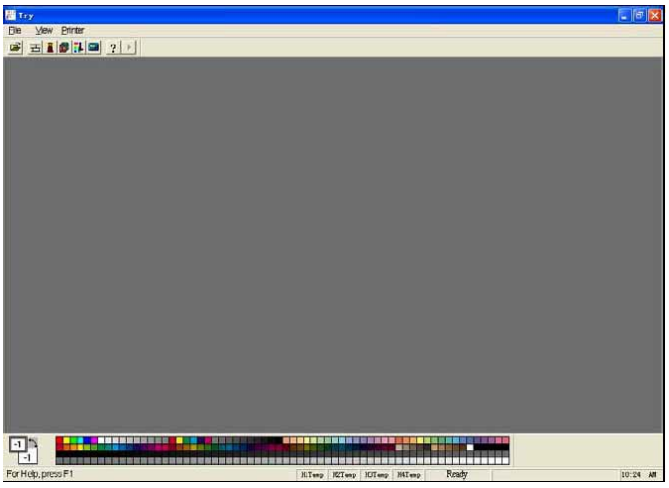
Remove the wet keeping frame, before turn on the power supply.

(2) Launch the Try program.

Select [**Try**] from [**Programs**] in the [**Start**] menu.



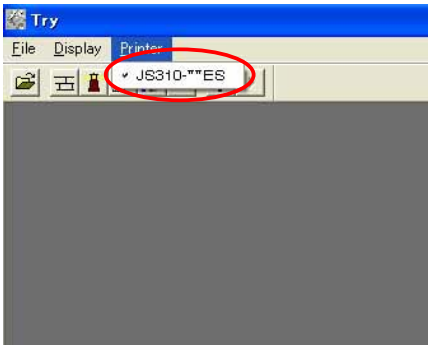
(3) The following screens are displayed.



(4) Specify the printer you will use.

When using this software for the first time, a printer must be selected.

Select "**JS310-xxES**" from "**Printer**" on the menu bar.



8.5 Printing the Nozzle Check Pattern

Before performing any adjustments, print the nozzle check pattern and check the printing status of the nozzles. If there are several non-firing nozzles, perform a printhead cleaning operation.

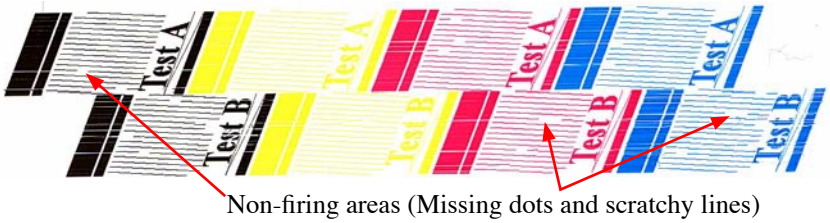
(1) Print the nozzle check pattern.

(a) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.

(b) From the submenu, select [**Jam Test**] and then press the **ENTER** key.

(c) Printing of the nozzle check pattern will start automatically.

When there are non-firing nozzles



Satisfactory printing (no non-firing nozzles)

(2) When there are non-firing nozzles perform the print head cleaning.

(a) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.

(b) From the submenu, select [**Clean Post**] and then press the **ENTER** key.

(c) The print head carriage moves to the cleaning position.

(d) Check that the levers on the 3-way valves for each of the ink tanks are in the ink supply position.

(e) Press the Ink button located at the cleaning position to feed ink through the print heads.

(f) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.

(g) From the submenu, select [**Auto Clean**] and then press the **ENTER** key.

(h) Negative pressure cleaning is executed, and then the printhead carriage returns to the Home position automatically.

(3) Print the nozzle check pattern once again and check the status of the nozzles. If several nozzles are still not firing, repeat the nozzle check and cleaning procedures.

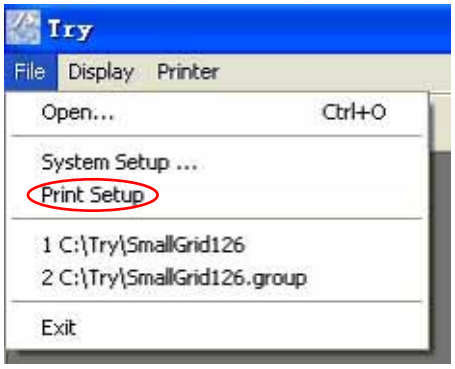
8.6 Adjusting the Positions of Print heads of the Same Color

Here we will describe the adjustment procedure for the cyan print heads. Perform the same procedure for the magenta, yellow, and black print heads.

(1) Select the print mode.

(a) Press the **ONLINE** key on the control panel to put the printer into ONLINE status.

(b) On the menu bar, click **File -> Print Setup**.



(2) Set the following settings to print adjustment pattern:

(a) Apply a check in the box in front of "Color C" (Cyan).

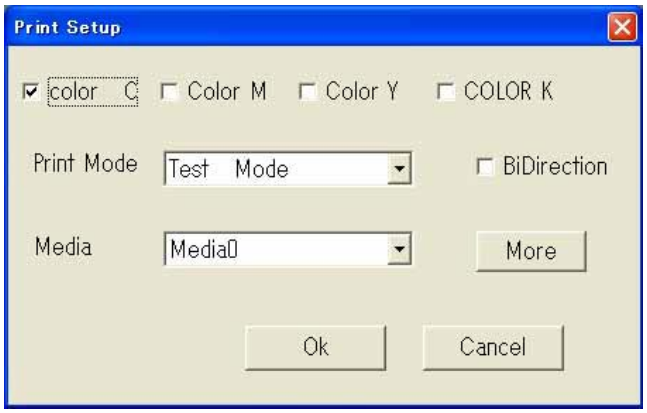
This depends on which color is adjusted.

(b) Remove the checks from the boxes in front of the other three colors (Color M (Magenta), Color Y (Yellow), and Color K (Black)).

This depends on which color is adjusted.

(c) Select "Test Mode" for "Print Mode".

(e) Remove the check from the box in front of "BiDirection".



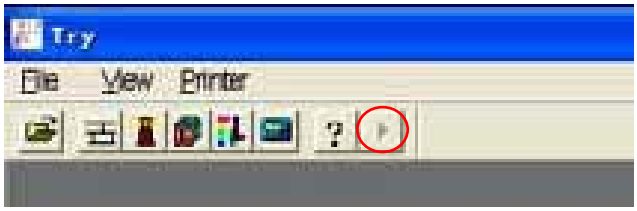
(d) Click "**OK**".

(3) Select an adjustment pattern and print it.

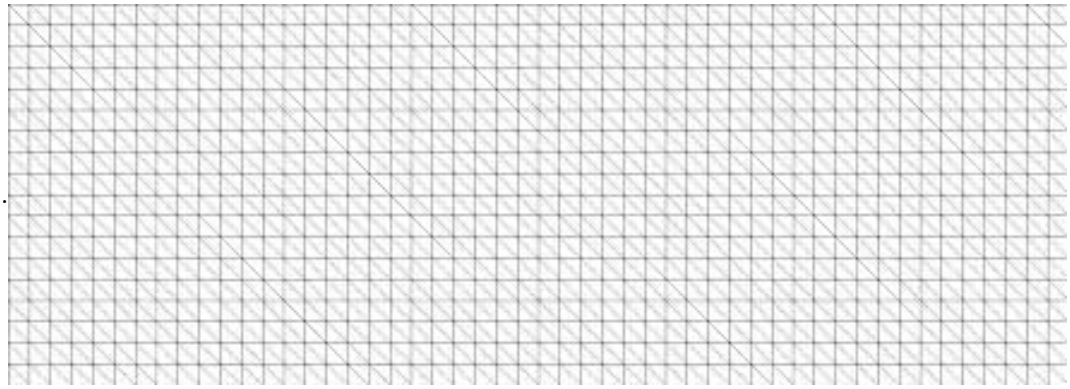
(a) On the menu bar, click **File** -> **Open**.

(b) Open the file "**C: /Try/SmallGrid126.group**"

(c) Click the ▸ button on the tool bar to print the selected pattern.



(d) Only cyan will be printed as shown in picture below.



(e) If you want to suspend the printing operation, press the **ESC** key.

To restart printing, select "**Continuous**" from the menu displayed on the printer's LCD and then press the **ENTER** key.

Waiting	1. Ink status
	2. Heat status
	3. Cleaning tool
OFFLINE	4. Continuous
	5. Cancel

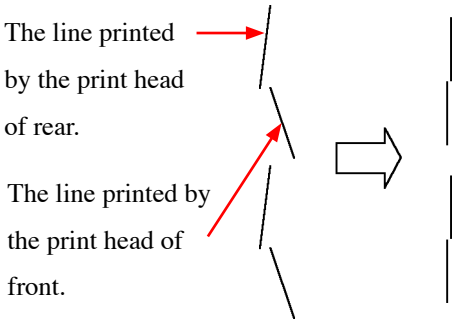
(f) If you want to quit the printing operation, select "**Cancel**" from the menu displayed on the printer's LCD and then press the **ENTER** key.

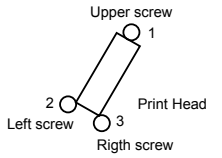
Waiting	1. Ink status
	2. Heat status
	3. Cleaning tool
OFFLINE	4. Continuous
	5. Cancel

(4) Adjust the print head tilt for rear and front of the print heads.

(a) Adjust the print heads tilt so that the vertical lines are vertical.

(b) If the vertical lines are not vertical, adjust the screws used to fasten the print heads.





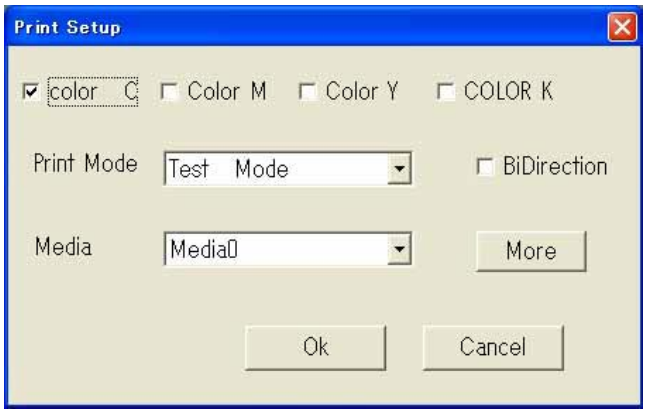
How to tilt the printing line in anticlockwise direction:
Loosen a right screw, and then tighten a left screw.

How to tilt the printing line in clockwise direction:
Loosen a left screw, and then tighten a right screw.

(5) Align the vertical lines for the front and rear print head.

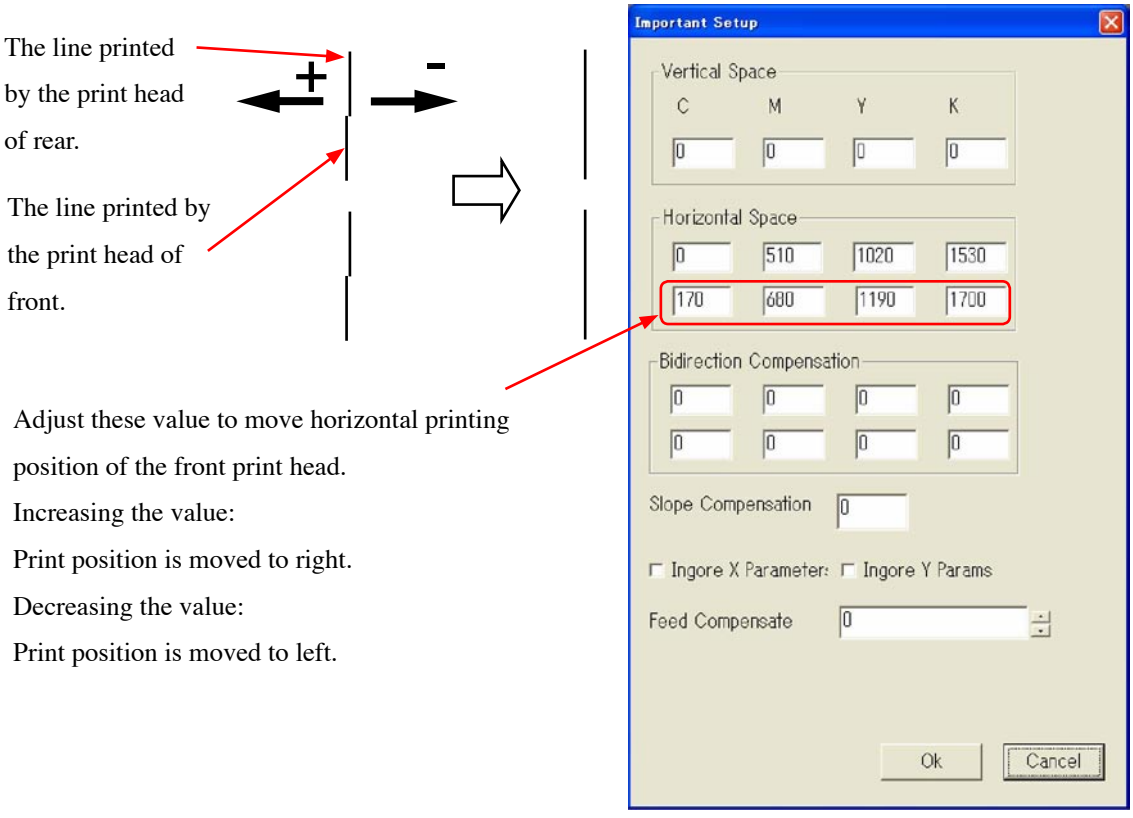
(a) Use the Try utility to make adjustments so that the vertical lines are perfectly aligned in the vertical direction.

(b) Click the “More” button from the Print Setup menu to display the Important Setup menu.



(c) The “Warning: Change these parameters carefully!” message is displayed. Click “Yes”.

(d) Adjust the Horizontal Space of Important Setup menu to become straight line for the rear and front print head.



Adjust these value to move horizontal printing position of the front print head.

Increasing the value:

Print position is moved to right.

Decreasing the value:

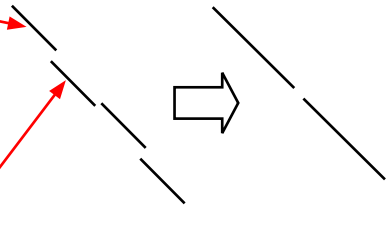
Print position is moved to left.

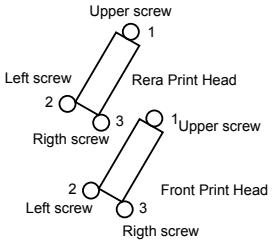
(6) Adjust the spacing between diagonal lines for the front and rear print head.

Adjust the spacing so that the diagonal lines are perfectly aligned with each other.

The line printed by the print head of rear.

The line printed by the print head of front.





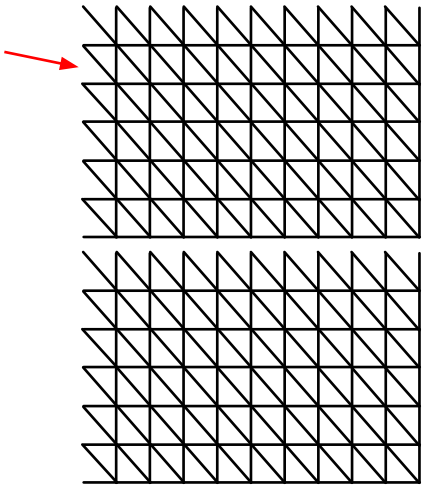
How to up the printing line:
Loosen an upper screw, and then tighten a left and a right screws.

How to down the printing line:
Loosen a left and a right screws by the same rotation, and then tighten an upper screw.

(7) Print the adjustment pattern once again and check the results of the adjustments made.

Repeat the printing and adjustment procedures until the positions of the vertical and diagonal lines are satisfactorily aligned.

This pattern is printed by a front and rear print heads.



(8) Perform the same adjustment procedures for the magenta, black, and yellow print heads.

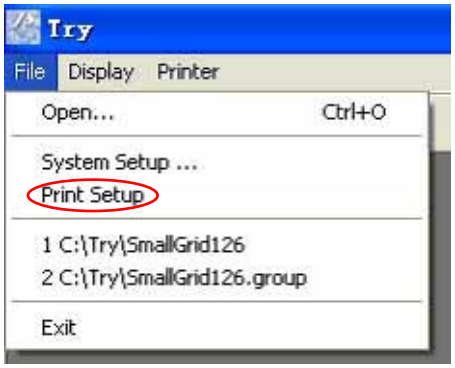
8.7 Adjusting the Positions of Print heads of a Different Color

Using the cyan print head as the reference print head, perform adjustments to ensure the most optimal positions for the magenta, yellow and black print heads. Here we will describe the adjustment procedure for the magenta print head, using the cyan print head as the reference print head. Perform adjustments for the yellow and black print heads in the same way.

(1) Select the print mode.

(a) Press the **ONLINE** key on the control panel to put the printer into ONLINE status.

(b) On the menu bar, click **File -> Print Setup**.



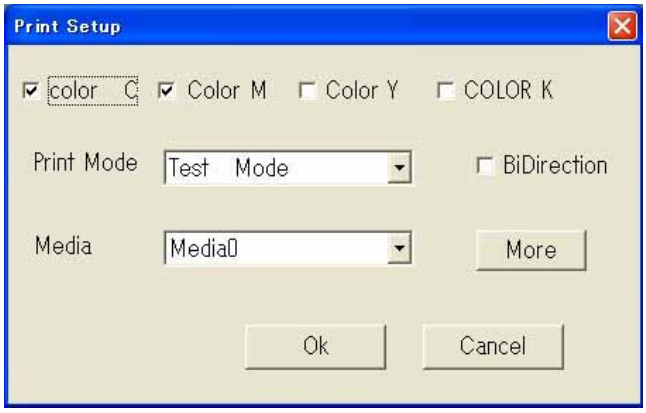
(2) Set the following settings to print adjustment pattern:

(a) Apply a check in the boxes in front of “Color C” (Cyan) and “Color M” (Magenta).
This depends on which color is adjusted.

(b) Remove the checks from the boxes in front of “Color Y” (Yellow), and “Color K” (Black).
This depends on which color is adjusted.

(c) Select “Test Mode” for “Print Mode”.

(e) Remove the check from the box in front of “BiDirection”.



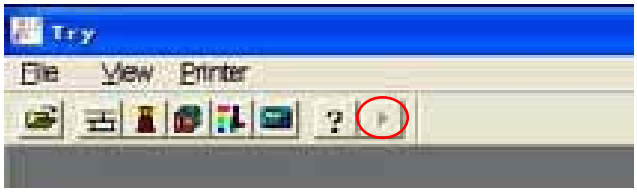
(d) Click “**OK**”.

(3) Select an adjustment pattern and print it.

(a) On the menu bar, click **File** -> **Open**.

(b) Open the file “**C: /Try/SmallGrid126.group**”

(c) Click the ▸ button on the tool bar to print the selected pattern.

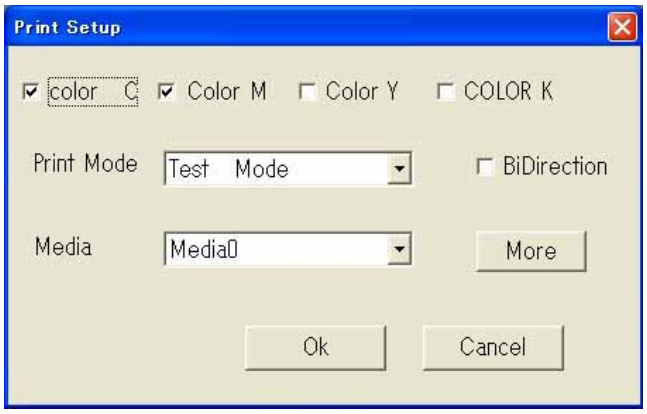


(4) Use the Try utility to adjust the spacing between print heads of a different color.

Follow the procedure described below to align the magenta lines with the cyan lines.

(a) Use the Try utility to make adjustments so that align the magenta lines with the cyan lines.

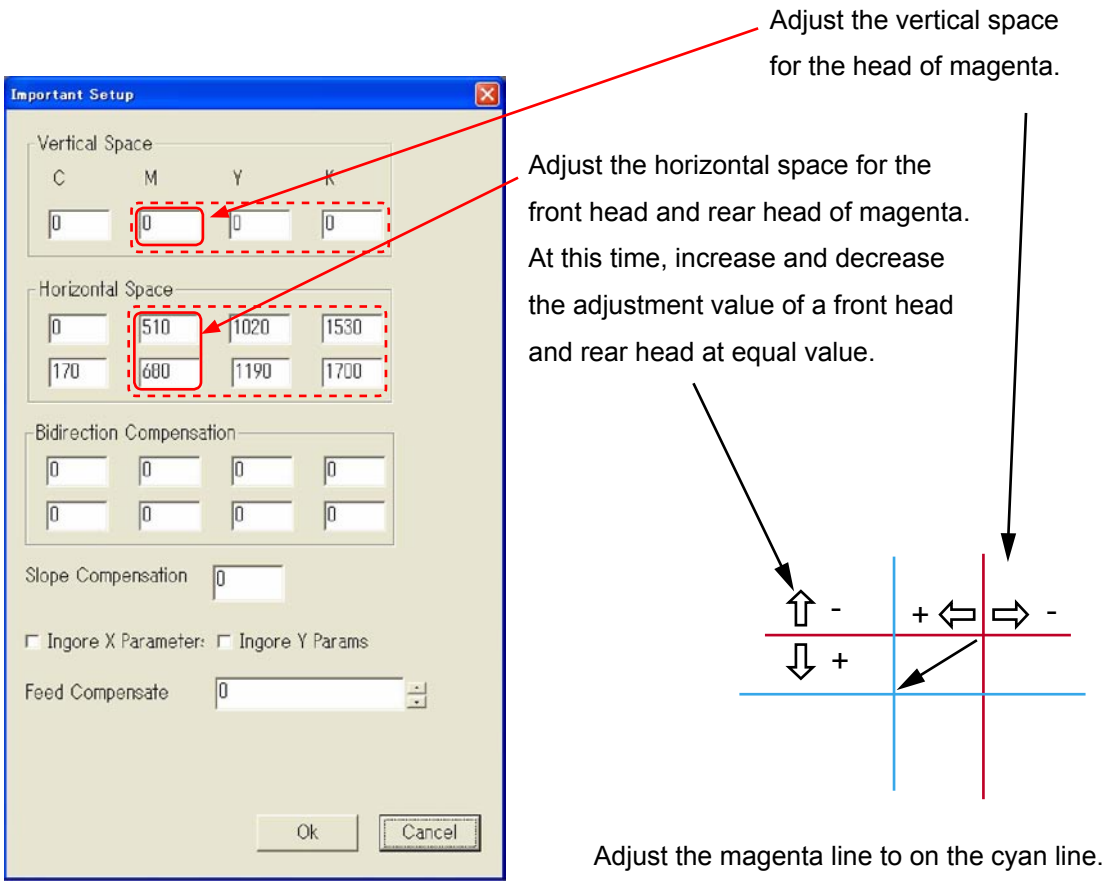
(b) Click the “More” button from the Print Setup menu to display the Important Setup menu.



(c) The “Warning: Change these parameters carefully!” message is displayed. Click “Yes”.

(d) Adjust the Horizontal Space and Vertical Space of Important Setup menu to align the magenta lines with the cyan lines.

(e) Increase or decrease the setting values until the magenta lines are aligned on top of the cyan lines.



(f) Print the adjustment pattern once again and check the results of the adjustments made.

(g) Repeat the printing and adjustment procedures until all the colors are aligned.

(5) Perform adjustments for the yellow and black print heads in the same way.

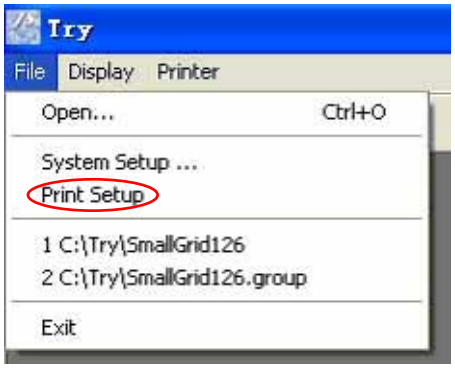
8.8 Media Feed Amount Compensation

The setting for the media feed amount (Feed Compensate on the Try utility) varies according to the thickness of the media used. Change this setting whenever you change the type of media used.

(1) Select the print mode.

(a) Press the **ONLINE** key on the control panel to put the printer into ONLINE status.

(b) On the menu bar, click **File -> Print Setup**.



(2) Set the following settings to print adjustment pattern:

(a) Apply a check in the box in front of "Color C" (Cyan).

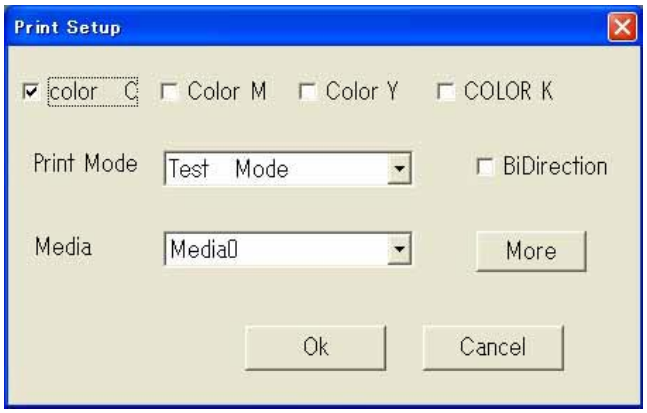
This depends on which color is adjusted.

(b) Remove the checks from the boxes in front of the other three colors (Color M (Magenta), Color Y (Yellow), and Color K (Black)).

This depends on which color is adjusted.

(c) Select "Test Mode" for "Print Mode".

(e) Remove the check from the box in front of "BiDirection".



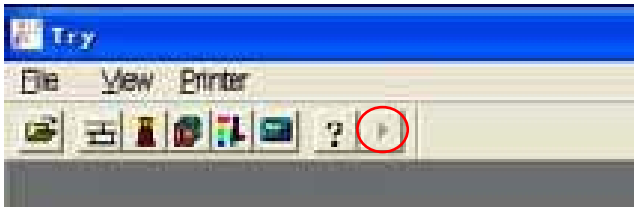
(d) Click "**OK**".

(3) Select an adjustment pattern and print it.

(a) On the menu bar, click **File** -> **Open**.

(b) Open the file "**C: /Try/SmallGrid126.group**"

(c) Click the ▸ button on the tool bar to print the selected pattern.

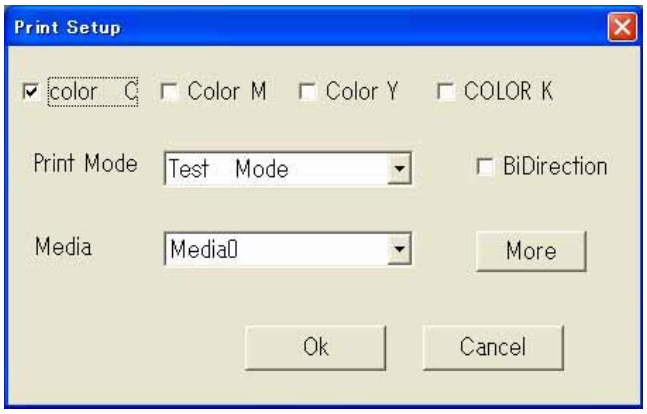


(d) Only cyan will be printed.

(4) Use the Try utility to adjust the spacing between each printed bands.

(a) Use the Try utility to make adjustments so that the vertical lines and the diagonal lines are connected as straight lines.

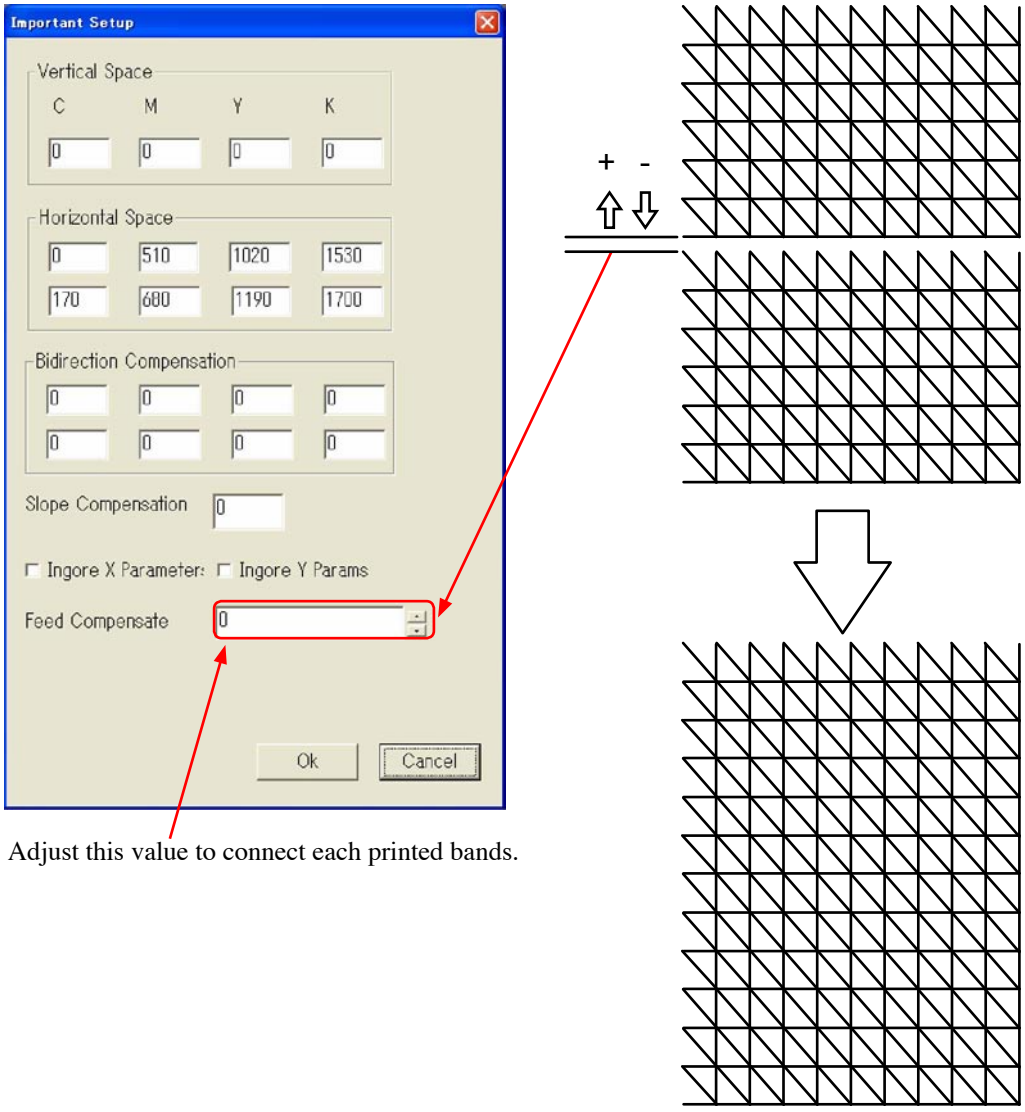
(b) Click the “More” button from the Print Setup menu to display the Important Setup menu.



(c) The “Warning: Change these parameters carefully!” message is displayed. Click “Yes”.

(d) Adjust the Feed Compensate of Important Setup menu to align the printed bands.

(e) Increase or decrease a value of Feed Compensate until each band is connected.



Adjust this value to connect each printed bands.

(5) Print the adjustment pattern once again, and check the results of the adjustments made.

(6) Repeat the printing and adjustment procedures until satisfactory adjustment results have been achieved.

8.9 Bi-directional Printing Band Adjustments

The bi-directional band adjustment settings need to be changed if changes are made to the following two parameters. Whenever these parameters are changed, make the adjustment settings accordingly.

- The printhead carriage speed
- The media thickness

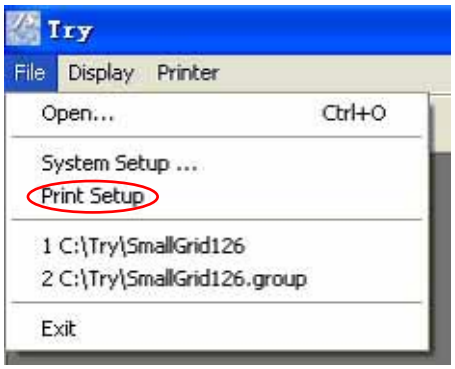
The following describes the adjustments made to the cyan printhead.

Make adjustments in the same way for the magenta, yellow, and black print heads.

(1) Select the print mode.

(a) Press the **ONLINE** key on the control panel to put the printer into ONLINE status.

(b) On the menu bar, click **File -> Print Setup**.



(2) Set the following settings to print adjustment pattern:

(a) Apply a check in the box in front of “Color C” (Cyan).

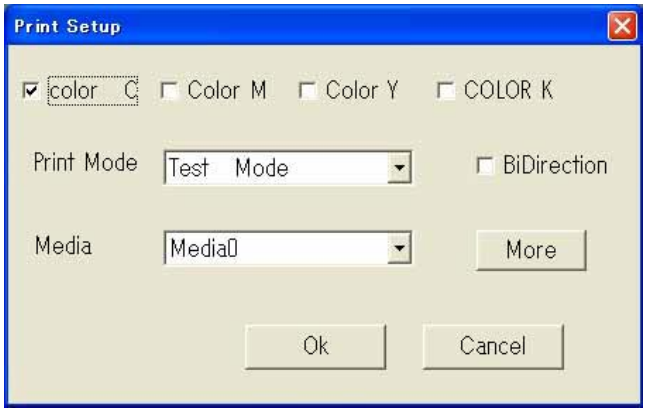
This depends on which color is adjusted.

(b) Remove the checks from the boxes in front of the other three colors (Color M (Magenta), Color Y (Yellow), and Color K (Black)).

This depends on which color is adjusted.

(c) Select “Test Mode” for “Print Mode”.

(d) Apply a check in the box in front of “BiDirection”.



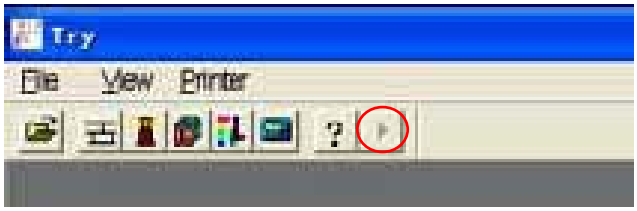
(e) Click “**OK**”.

(3) Select an adjustment pattern and print it.

(a) On the menu bar, click **File** -> **Open**.

(b) Open the file "**C: /Try/SmallGrid126.group**"

(c) Click the ▸ button on the tool bar to print the selected pattern.

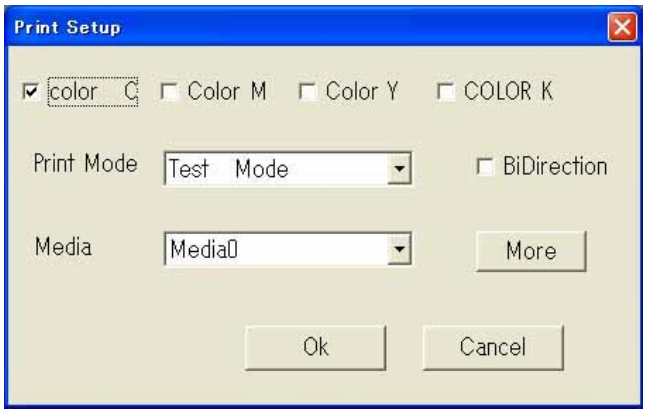


(d) Only cyan will be printed.

(4) Use the Try utility to adjust the spacing between each printed bands.

(a) Use the Try utility to adjust the bi-directional printing band.

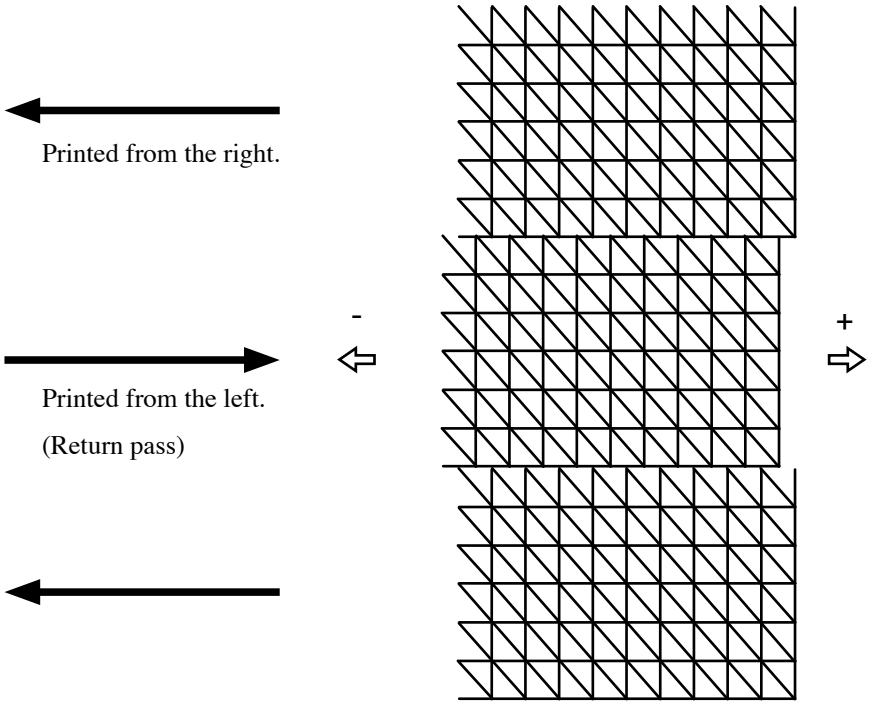
(b) Click the "More" button from the Print Setup menu to display the Important Setup menu.



(c) The "Warning: Change these parameters carefully!" message is displayed. Click "Yes".

(d) Perform adjustments accordingly while viewing the printed results.

Printing direction

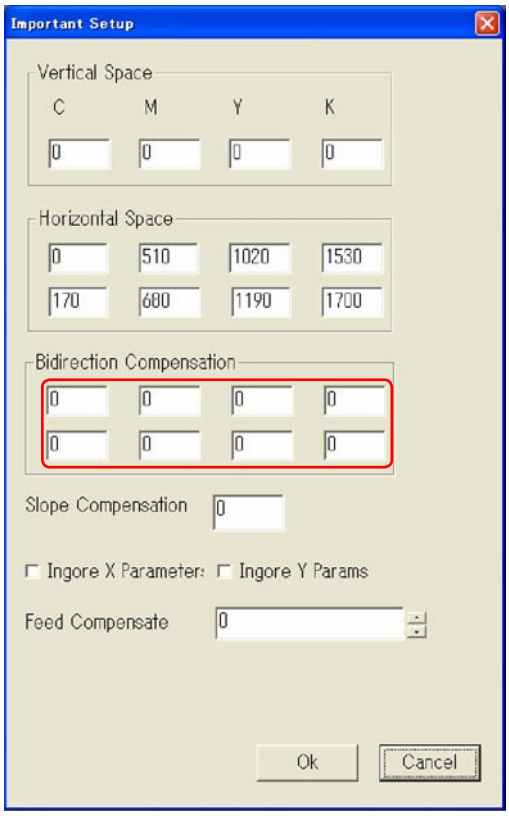


(e) Adjust the position of the vertical lines printed on the return pass.

To shift the lines to the left: Increase the setting value.

To shift the lines to the right: Decrease the setting value.

(f) Adjust the Bidirection Compensation of Important Setup menu to align the printed bands.

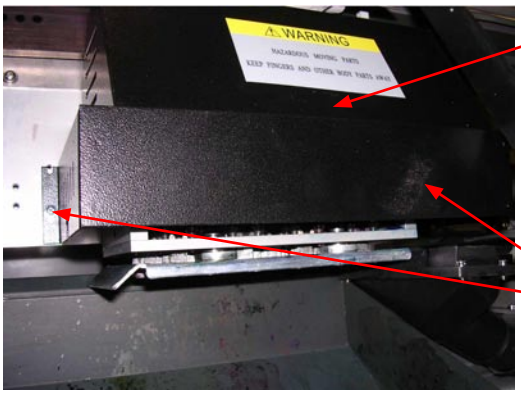


(5) Print the adjustment pattern once again and check the results of the adjustments made.

(6) Repeat the printing and adjustment procedures until the vertical lines printed on the outward and return passes form continuous straight lines.

(7) Perform adjustments in the same way for the magenta, yellow and black print heads.

(8) Attach the print head carriage cover when you completed all adjustment which described in the Section 8.



9. Procedures when leaving the printer for a long time

If you leave the printer for a long period of time (2 weeks or longer), please dispose all ink from the printer, fill the ink tubes and the print heads by the cleaning solution, cover the print heads by the wet keeping frame and the wet keeping polyethylene films by following procedures.

9.1 Dispose the ink from the printer

(1) Move the printhead carriage to the cleaning position.
   (a) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.
   (b) From the submenu, select [**Clean Post**] and then press the **ENTER** key.
   (c) The printhead carriage moves to the cleaning position and then stops.

(2) Set the 3-way valve for each ink tank to the ink supply position.

(3) Empty out the ink from the ink tanks.

⚠ **CAUTION:**

First of all, remove the waste ink tanks mounted in the printer, and then discard the ink from the ink tanks into the waste ink tanks.

(4) Feed out any ink remaining in the Print Head nozzles.
   (a) Press the Ink button to feed out any ink through the Print Head nozzles.
   (b) When the "**No ink**" alarm sounds, from the main menu, select [**Ink Status**] and then press the ENTER key to continue the ink removal operation.
   (c) Continue feeding out the ink until the "**No ink**" alarm sounds once again.

(5) Turn off the printer power supply.

(6) Empty out the ink from the sub tanks.

⚠ **CAUTION:**

First of all, remove the waste ink tanks mounted in the printer, and then discard the ink from the sub tanks into the waste ink tanks.

   (a) Remove the cap from each sub tank.
   If the cap is difficult to remove, use pliers or similar to grip the cap and open it.
   (b) Empty out the ink from each sub tank.
   (c) Close the cap, and replace each sub tank.
   (Refer to Section 6.1 Initial Cleaning of the Ink Supply Tubes and the Sub Tanks) Empty out the cleaning solution from the sub tanks.)

9.2 Induction of the cleaning solution

(1) Pour 150 to 200 cc of cleaning solution into each ink tank.

Pour 150 to 200 cc of cleaning solution into each of the four ink tanks (C, M, Y, K).

• 150 to 200 cc guideline amount: The level where the filter in the ink tank is covered.

(2) Turn on the printer power supply.

(a) The ink pump operates to feed the cleaning solution to the sub tanks.

(b) If the "**No ink**" alarm sounds, from the main menu, select [**Ink Status**] and then press the **ENTER** key.

(c) The alarm will stop sounding when the four sub tanks (C, M, Y, K) are filled with cleaning solution.

(d) At this time there will be no operating noise from the ink pump.

(3) Move the printhead carriage to the cleaning position.

(a) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.

(b) From the submenu, select [**Clean Post**] and then press the **ENTER** key.

(c) The printhead carriage moves to the cleaning position and then stops.

(4) Feed out any cleaning solution through the Print Head nozzles.

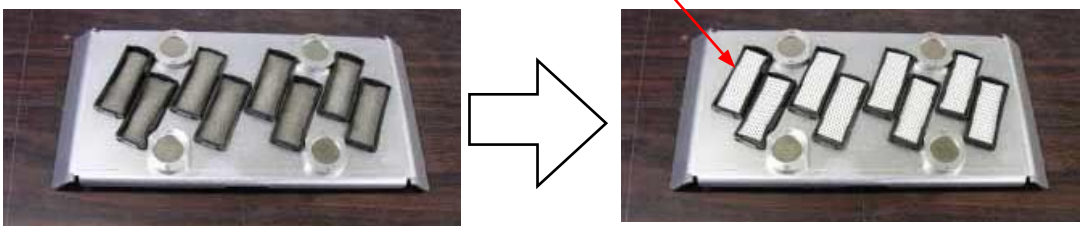
(a) Press the Ink button to feed out any cleaning solution through the Print Head nozzles.

(b) Continue to feed the cleaning solution through the Print Head nozzles until they are clean (approximately 20 seconds).

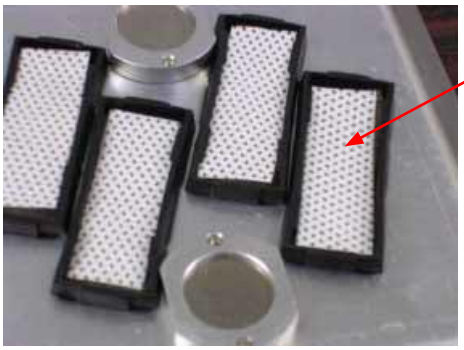
9.3 Moisturizing of print head

(1) Put a clean unwoven fabric on the sponge of wet keeping frame.

Cut an unwoven fabric,and fold it.
Then put the unwoven fabric on the sponge.



(2) Drop some cleaning solution on the unwoven fabric.

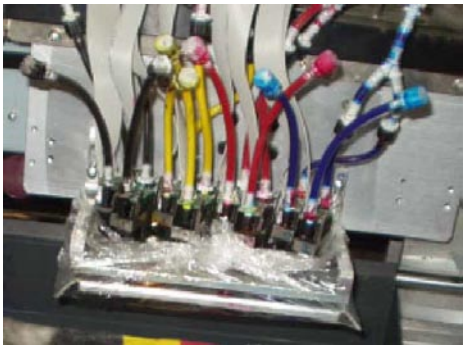


Drop some flush solution.

(3) Cover the wet keeping frame the print head.

Cover the wet-keeping frame.

(4) Wrap the print head unit with fresh keeping polyethylene film.



10. Procedures when you transport the printer

If you transport the printer, please dispose the ink from the printer by the procedures that are described at the section 9.1, then fill the ink tube and the printhead by the cleaning solution by the procedures that are described at the section 9.2. After that, please dispose the cleaning solution by following procedures and transport the printer.

10.1 Dispose the cleaning solution from the printer

(1) Move the printhead carriage to the cleaning position.
   (a) From the main menu, select [**Cleaning Tool**] and then press the **ENTER** key.
   (b) From the submenu, select [**Clean Post**] and then press the **ENTER** key.
   (c) The printhead carriage moves to the cleaning position and then stops.

(2) Turn off the printer power supply.

(3) Empty out the cleaning solution from the ink tanks and the solution tank.

⚠ **CAUTION:**

First of all, remove the waste ink tanks mounted in the printer, and then discard the cleaning solution from the ink tanks and the solution tank into the waste ink tanks.

(4) Empty out the cleaning solution from the sub tanks.

⚠ **CAUTION:**

First of all, remove the waste ink tanks mounted in the printer, and then discard the cleaning solution from the sub tanks into the waste ink tanks.

   (a) Remove the cap from each sub tank.
   If the cap is difficult to remove, use pliers or similar to grip the cap and open it.
   (b) Empty out the cleaning solution from each sub tank.
   (c) Close the cap, and replace each sub tank.

(5) Turn on the printer power supply.
   (a) The ink pump operates to feed out the any cleaning solution remaining in the tubes to the sub tanks.
   (b) When the "**No ink**" alarm sounds, from the main menu, select **[Ink Status]** and then press the **ENTER** key to continue the cleaning solution removal operation.
   (c) Continue feeding out the cleaning solution until the "No ink" alarm sounds once again.

(6) Turn off the printer power supply.

(7) Empty out the cleaning solution from the sub tanks once more.

10.2 Fixing the printhead carriage

Covering the printhead by the wet keeping frame and the fresh keeping polyethylene film following the procedures that are described at section 9.3 Moisturizing of print head, then fixing with some adhesion tape to resist movement.

10.3 Discard the waste ink

(1) Remove the tubes from the waste ink tanks.

(2) Take out the waste ink tanks from the printer.

(3) Displace the waste ink to the plastic bottle that you provided

⚠ **CAUTION:**

Do not mix the waste ink with any other chemicals and solvent when you displace the waste ink. Also dispose the waste ink as the industrial waste (waste oil).

(4) Replace the waste ink tanks, and connect the tubes.

11. Troubleshooting

11.1 Printing is not performed

Symptom	Cause	Solution
Power is not being supplied.	The power cable is not connected.	Check that the power cable is firmly inserted.
	Power is not being supplied to the power outlet.	Check that a power voltage conforming to the power supply specifications is being supplied.
A “COM Timeout” message appears on the computer screen.	The printer is not online.	Check whether the printer is online. If it is not online, press the ONLINE key to put the printer online.
	The printer is not connected to the computer’s USB port.	Check that the printer’s USB port is connected to the computer’s USB port. Check that the USB cable is firmly inserted.
The printhead carriage stops suddenly.	The wet keeping frame is still attached to the printhead carriage.	Remove the wet keeping frame and then turn the power off and back on again.

11.2 Unsatisfactory printing

Symptom	Cause	Solution
The printed results are scratchy.	Insufficient ink.	If the “No ink” alarm sounds, refill the ink tank(s) and then press the ESC key.
	Clogged nozzles.	Print the nozzle check pattern to check the nozzles (see Section 8.5 Printing the Nozzle Check Pattern). If there are several clogged nozzles, perform a printhead cleaning operation .
	Dirty nozzle surface.	Use the brush(es) provided to clean the surface of the nozzles.
	Incorrect EF value settings.	Input the correct values (see Section 8.1 Setting the Printhead Drive Voltage).
	There is a bend somewhere in one of the ink tubes.	Check whether there is a bend in the ink tubes connected to the ink tank, or in the inlet tubes.
The printing gradually becomes faint.	Insufficient ink.	If the “No ink” alarm sounds, refill the ink tank(s) and then press the ESC key.
	Cleaning solution has become mixed in with the ink.	Check the 3-way valve for each ink tank. If any of the levers is set incorrectly, move it to the ink supply position.

Symptom	Cause	Solution
There are contact marks on the printed results.	The media shifted and touched the print heads.	If the heater temperature is too high, reduce it. Check whether the media has been loaded at an angle. Make sure that the media is loaded so that it is straight. Perform a printhead cleaning operation (see Section 8.5 Printing the Nozzle Check Pattern).
	The gap between the media and the print heads was insufficient, causing the media to touch the print heads.	Raise the height of the print heads. Perform a printhead cleaning operation (see Section 8.5 Printing the Nozzle Check Pattern).
The color hues of the printed results are strange.	Ink of the wrong color is being emitted by one or more of the print heads.	Check the following points: • Whether the ink tanks contain ink that is the same color as the color code sticker on each tank; • Whether the colored rings on the tubes and the stickers on the ink tanks are the same color; • Whether the inlet tubes have been connected correctly. If an error was made with any of the above, use cleaning solution to wash out all the affected tanks/tubing, and then refill the tanks with ink of the correct color or re-feed ink through the tubes as required.
	Cleaning solution is being emitted by one or more of the print heads.	Check the 3-way valve for each ink tank. If any of the levers is set incorrectly, move it to the ink supply position.
	Ink is not being emitted correctly.	Print the nozzle check pattern to check the nozzles (see Section 8.5 Printing the Nozzle Check Pattern). If there are several nozzles that are not firing, perform a printhead cleaning operation.
		If the outlet tube caps have not been inserted firmly, ink is drawn away from the printhead. Firmly insert the outlet tube caps, and then feed the ink to the printhead.

Symptom	Cause	Solution
The color hues of the printed results are strange.	Ink is not being emitted correctly.	If there is a bend in one of the ink tubes, ink will not be supplied to the printhead. Check whether there is a bend in the ink tubes connected to the ink tank, or in the inlet tubes.
	The color profile is not correct.	Check whether the color profile matches the media being used. Be sure to use a color profile that matches the media.
	Printhead adjustment has not been performed.	Follow the printhead adjustment procedure described in this manual.
	Incorrect ink selection.	Check whether genuine Graphtec ink is being used with the printer (see Section 8.1 Setting the Printhead Drive Voltage).
The reverse side of the media is dirty.	The printing platform is dirty.	Clean it.
	The media was taken up before it was dry.	If the drying fan is not operating, there is not sufficient time for the ink to dry. Be sure to use the drying fan. If the data has a high printing density, the drying time may not be sufficient. Choose one of the following solutions. • Reduce the printing density of the data. • Reduce the printhead carriage speed. • Increase the number of passes.
Black streaks or white streaks appear in the printed results.	Incorrect feed adjustment.	Perform the feed adjustment procedure described in this manual (see Section 8.8 Media Feed Amount Compensation).
	Incorrect printhead position adjustment.	Perform the printhead position adjustment procedure described in this manual (see Section 8.6 Adjusting the Positions of Print heads of the Same Color, and Section 8.7 Adjusting the Positions of Print heads of a Different Color).
	Nozzles are not firing or a jet trajectory error has occurred.	Print the nozzle check pattern to check the nozzles (see Section 8.5 Printing the Nozzle Check Pattern). If there are several nozzles that are not firing, perform a printhead cleaning operation (see Section 8.5 Printing the Nozzle Check Pattern).

Symptom	Cause	Solution
The images overlap.	The bi-directional band adjustment is incorrect.	Perform the bi-directional band adjustment procedure (see Section 8.9 Bi-directional Printing Band Adjustment). If you replace the media with a different type, adjust the height of the print heads or change the printhead carriage speed, this adjustment procedure must be performed.
There is a lot of blurring on the image.	The heater setting value is too low.	Blurring will occur if the heater setting value is too low for the media being used. Raise the setting value. If phenomena such as the media shifting occur and the heater setting value cannot be increased, lower the printhead carriage speed.
The media cannot be fed at all.	The media feed motor is not operating.	Check the selector switch on the media feeding system and the direction selector switch setting (see Section 7.1 Loading the Media).
	The press rollers are raised.	Lower the press roller control pole.

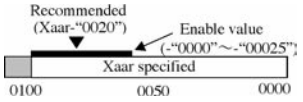
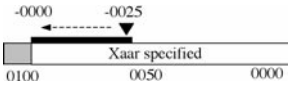
11.3 Cleaning cannot be performed

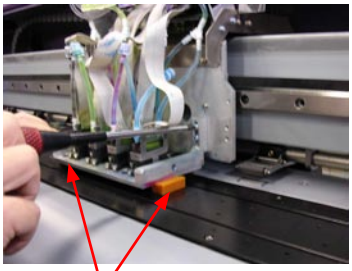
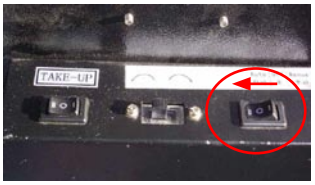
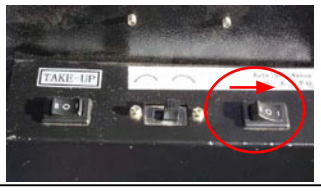
Symptom	Cause	Solution
The cleaning solution is not being fed.	Insufficient cleaning solution in the solution tank.	Check the level of the cleaning solution in the solution tank. If it is low, add some more cleaning solution.
	The 3-way valve for the cleaning solution tank is shut off.	Move the lever on the 3-way valve to the supply position.
	There is a bend somewhere in the ink supply tube.	Straighten out the bend.
Ink is being fed instead of cleaning solution.	The tubes have been connected incorrectly.	Check whether the ink tank and solution tank tubes have been connected correctly. If they have been connected incorrectly, clean all the solution tank tubing and the incorrectly connected ink tank tubing, and then feed cleaning solution and ink through them once again as appropriate. Do not mix contaminated cleaning solution with fresh cleaning solution.

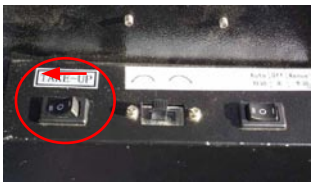
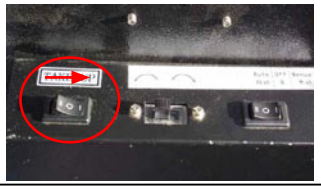
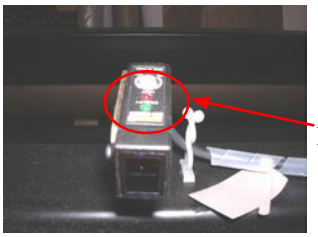
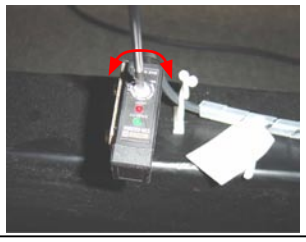
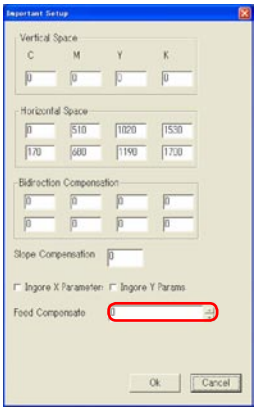
11.4 Other problems

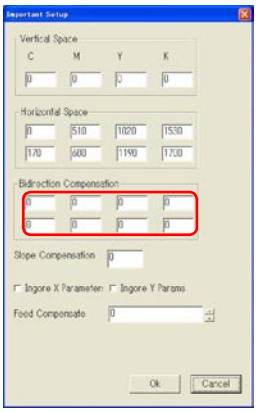
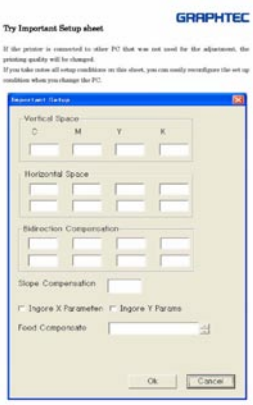
Symptom	Cause	Solution
The media jammed.	The edges of the media curled up, and became jammed.	The edges of the media may curl up if the media edge guards are not used. Be sure to use the media edge guards. If the media touched the print heads, perform a printhead cleaning operation (see Section 8.5 Printing the Nozzle Check Pattern).
	The media shifted and touched the print heads.	If the heater temperature is too high, reduce it. Check whether the media has been loaded at an angle. Make sure that the media is loaded so that it is straight. Perform a printhead cleaning operation (see Section 8.5 Printing the Nozzle Check Pattern).
	The gap between the media and the print heads was insufficient, causing the media to touch the print heads.	Raise the height of the print heads. Perform a printhead cleaning operation (see Section 8.5 Printing the Nozzle Check Pattern).
The media cannot be taken up.	The switch setting is incorrect.	See Section 7.3 Winding the Media onto the Take-up Unit in this manual for the correct switch setting procedure.
	The take-up sensor adjustment is incorrect.	Check whether the sensor is being affected by direct sunlight or indoor lighting. See Section 7.3 Winding the Media onto the Take-up Unit in this manual for the sensor adjustment procedure.
The waste ink tanks are full.		Firmly tighten the caps on the waste ink tanks and then dispose of them as industrial waste.

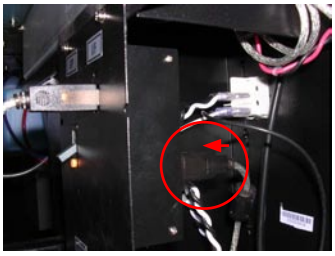
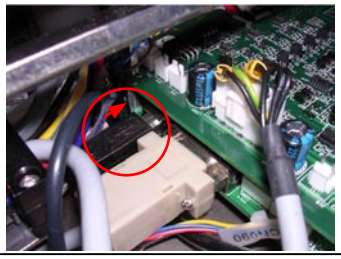
11.5 Additional Troubleshooting

Symptom	Cause	Solution	Note
Printing cannot be done/There are white lines/Printing condition is not stable.	Graphtec specified ink (IJ80050 series) is not used.	If the ink that is not Graphtec specified (IJ80050 series) is used, unexpected printing trouble may happen.	If you use the ink that is not Graphtec specified ink (IJ80050 series), please check whether the Xaar XJ-126-300 type print head is listed on the compatible print head list of the ink.
	Print head nozzle(s) is clogged.	Press the INK button to perform the Positive pressure cleaning.	Perform a printhead cleaning operation (see Section 8.5 Printing the Nozzle Check Pattern).
	Setting of the EF value is not correct.	Set the EF value according to the recommended EF data that is attached with the print head. The values need to be set from the operation panel. [Main menu] Print Para > PH Volt. Set > PH"X" Voltage >" XXXX" Example: If the Recommended EF Data is 0.85, enter "0085". If Graphtec specified ink (IJ80050 series) is not used, please set the EF value according to the note described at right side.	EF Data;  If Graphtec specified ink (IJ80050 series) is not used, the ink may not fired correctly. In this case, please increase the EF value in +0005 step and check the printing condition.  "-0025"->"-0020"->"-0015" ->"-0010"->"-0005"->"-0000" (Xaar specified) Example; Xaar specified EF is 0.95(0095), "0070"(0095-0025=0070)->" 0075" (0095-0020=0075)->" 0080"- - - - - - ->"0095"
	Firing is not enabled.	Set the Flash Mode to 1 or 2. [Main menu] Print Para > Flash Mode > 1 or 2.	Flash Mode; If the printing width is 1/2 full width or less, set the mode to 1. If the printing width is wider than 1/2 full width, set the mode to 2.

Symptom	Cause	Solution	Note
Printing cannot be done/There are white lines/Printing condition is not stable.	The firing volume setting is not correct.	Increase the firing vol. setting from 20 in 10 step and check the printing condition. [Main menu] Print Para > Firing Vol > “0020”->”0030”->”0040”->”0050”->”0060” (increase the value and check the printing condition until “0060”)	
	Print speed is too fast.	Set the printing speed to “Normal” or “Low”. [Main menu] Print Para > Print Speed > Norm or Low	If the ink other than Graphtec specified ink (IJ80050 series) is used, firing rate may become worse.
Print head touches with the media hold plate.	Print head height adjustment is not correct.	Adjust the print head height using the Head height adjustment Jig.  Head height adjustment Jig	Refer to section 6.4 Printhead height Adjustment.
Take-up & Feed roller does not work.	Feed roller SW setting is not correct.	When set to “Auto-feed” (synchronized with sensor), SW should be set to the direction specified by the arrow in below photo. (“ II”)  When set to “Manual feed” (not synchronized with sensor), SW should be set to the direction specified by the arrow in below photo. (“ I ”) 	Refer to section 7.1 Loading the Media”. When the SW is positioned at center (“O”), the Take-up roller stops.

Symptom	Cause	Solution	Note
Take-up & Feed roller does not work.	Take-up roller SW setting is not correct.	When set to “Auto-take-up” (synchronized with sensor), SW should be set to the direction specified by the arrow in below photo. (“ II “)  When set to “Manual take-up” (not synchronized with sensor), SW should be set to the direction specified by the arrow in below photo. (“ I “) 	Refer to section 7.3 Winding the Media onto the Take-up Unit.
	The adjustment of sensor is not correct.	Adjust the sensor sensitivity by turning the trimmer during checking the indication of LED.  	Refer to sections 7.2 Adjust the auto feed function, and. 7.4 Adjust the auto take-up function.
There is banding on the printing.	The media feed adjustment is not correct.	Set the “Feed Compensate” at the Try. Input the value with checking the feed distance.  Readjust the value when change the type of media.	Refer to section 8.8 Media Feed Amount Compensation.

Symptom	Cause	Solution	Note
There is shift on the printing when printing in Bi-direction mode.	The band adjustment of the bi-direction is not correct.	Set the “Feed Compensate” at the Try. Input the value with checking the feed distance.  Re-adjust the Feed compensate when change followings. - Change the type of media - Change the print head height - Change the print speed	Refer to section 8.9 Bi-directional Printing Band Adjustment.
The printing becomes incorrect after changing the PC.	The Try is not set.	The setting of Try is stored in the PC. Therefore set again all values to the Try when change the PC.	Please use the sheet “Try Important Setup sheet” that is attached as a standard accessory for take note of all settings of the Try. 
The printing becomes incorrect after changing the print heads.	The mounting positions of the print heads are not correct.	Adjust the mounting positions of print heads again. (mechanical adjustment and the Try adjustment)	Refer to section 8.6 Adjusting the Positions of Print heads of the Same Color, 8.7 Adjusting the Positions of Print heads of the Different Color.

<table>
<tr><th>Symptom</th><th>Cause</th><th>Solution</th><th>Note</th></tr>
<tr><td rowspan="2">The printer hangs up during printing.</td><td>Printer receives noise by the setting environment.</td><td>- Use the power cable that is attached as a standard accessory, plug-in correctly.
- Grounding correctly.
- Please not source the power from the location where any other noisy equipment such as motor.</td><td></td></tr>
<tr><td>The USB cable is not correctly connected.</td><td>- Use the USB cable that is attached as a standard accessory, plug-in correctly.
- Please do not use the USB hub, connect directly to the printer.</td><td>Check whether the USB connector is plugged correctly. Not only between the PC and the printer, but also inside of the printer.
Check the connection inside of the Electric box and at the carriage board.
Inside of the electric box
 
Carriage board
  </td></tr>
<tr><td>The INK pump does not work even press the INK button. Or Solution pump does not work even press the SOLUTION button.</td><td>Connector of the button is disconnected.</td><td>Check the terminal at rear side of the button.

 </td><td></td></tr>
</table>

12. Consumables

Print head

Item	Part Number	Part Name	Remark
Print head	677646000	Xaar126-300head	1 piece

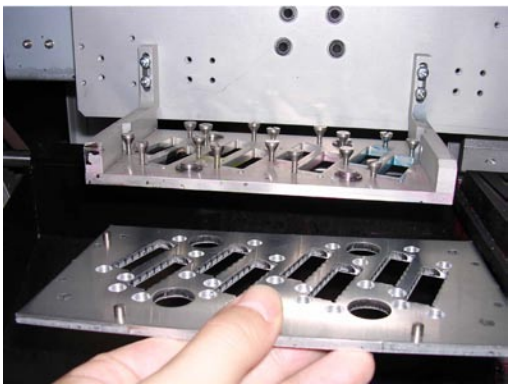
Supply

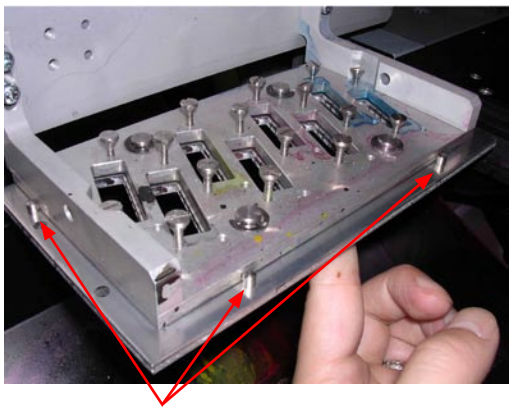
Item		Part Number	Part Name	Remark
Eco-Friendly Solvent IJ-80050 Series	Flush solution	677647000	IJ-80050S-12B	1L x 12 bottles
	Ink (Yellow)	677647010	IJ-80050Y-12B	1L x 12 bottles
	Ink (Magenta)	677647020	IJ-80050M-12B	1L x 12 bottles
	Ink (Cyan)	677647030	IJ-80050C-12B	1L x 12 bottles
	Ink (Black)	677647040	IJ-80050BK-12B	1L x 12 bottles
Flush solution for IJ-80100 Series and IJ-80100 Series		677647100	IJ-80100S-6B	1L x 6 bottles
Eco-Friendly Solvent IJ-80100 Series	Ink (Yellow)	677647110	IJ-80100Y-6B	1L x 6 bottles
	Ink (Magenta)	677647120	IJ-80100M-6B	1L x 6 bottles
	Ink (Cyan)	677647130	IJ-80100C-6B	1L x 6 bottles
	Ink (Black)	677647150	IJ-80100K-6B	1L x 6 bottles
Pure Solvent IJ-80200 Series	Ink (Yellow)	677647210	IJ-80200Y-6B	1L x 6 bottles
	Ink (Magenta)	677647220	IJ-80200M-6B	1L x 6 bottles
	Ink (Cyan)	677647230	IJ-80200C-6B	1L x 6 bottles
	Ink (Black)	677647250	IJ-80200K-6B	1L x 6 bottles

13. How to use the Print head position alignment jig

If the print head position alignment jig is used when mounting the print heads, the print heads are roughly centered and it will make the position alignment work easier at later stage of the adjustment.

(1) Set the print head position alignment jig as shown in the picture below.

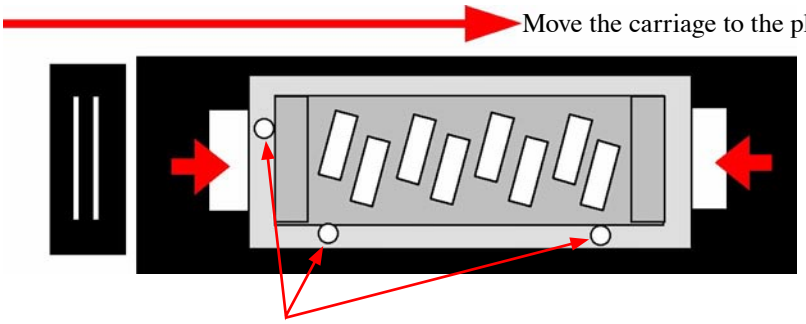




Fit the pins to edge of frame to fix the jig

(2) Move the carriage to the platen position, then fix the jig using the fixings such as foamed polystyrene.

(3) Fit the pins to the edge of frame so that the jig is securely fixed.

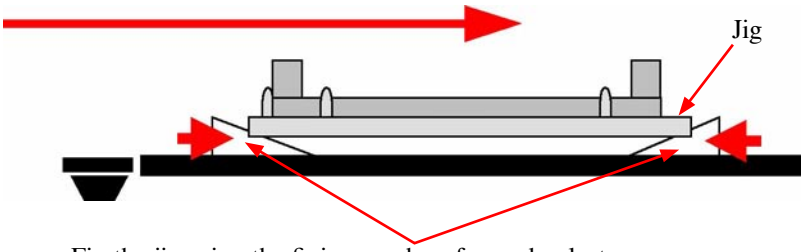


Fit the pins to the edge of frame so that the jig is fixed.

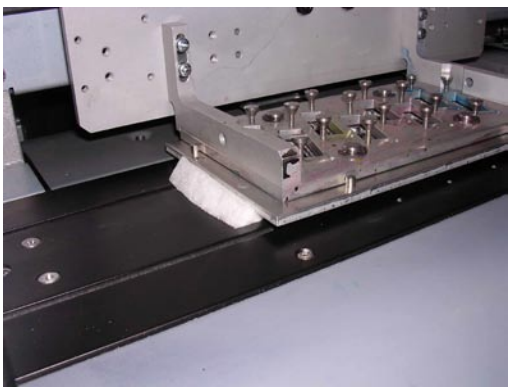
⚠ CAUTION:

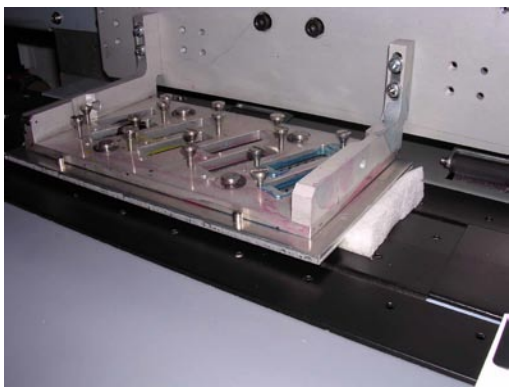
If the pins are not fit to the edge, the printhead will not be mounted at correct positions.

(4) Fix the jig using the fixings such as foamed polystyrene.

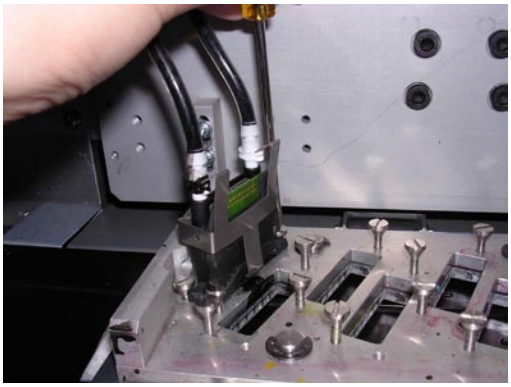


Fix the jig using the fixings such as foamed polystyrene

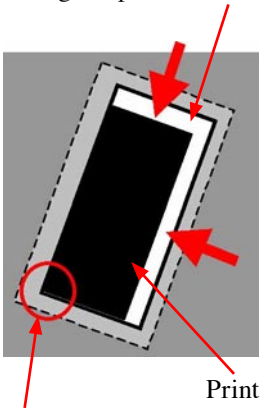




(5) Mount the print heads as shown in the picture below.



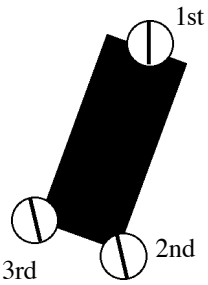
Rectangle hole for mounting the print head



Print head

Attach the print head at lower left corner of the rectangle hole.

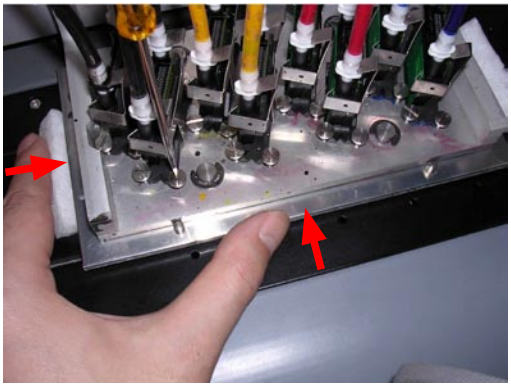
Screws must be tightening with following order.



⚠ CAUTION:

When tightening the screws to the print heads, be sure to hold the jig from lower left direction to fit the pins surely at the edge of frame.

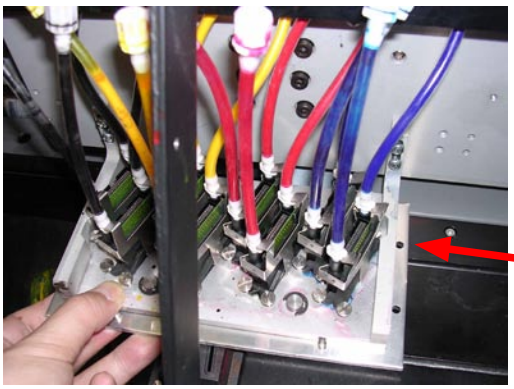
Be sure that the printhead position alignment jig does not move during the alignment work.



(6) Remove the print head position alignment jig after you mount all print heads.

(7) Remove the foamed polystyrene that fixed the print head position alignment jig.

(8) Move the carriage to the cleaning position.

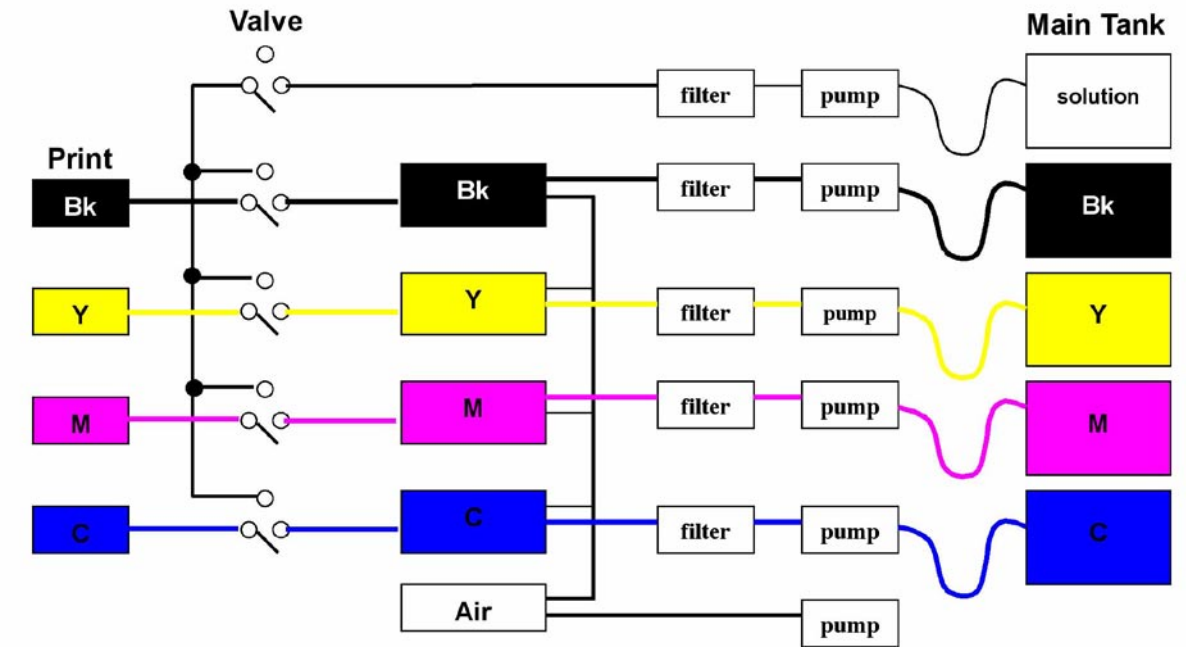


Move the carriage to the cleaning position.

(9) Remove the print head position alignment jig.

(10) Perform final adjustment of the printhead position alignment following to section 8. Print head Adjustment Procedures.

14. Ink supply system diagram



15. Recommended print conditions

Media	Print pass	Print direction	Heater		PH Volt. Set	Curve of ink	Flash Mode	Firing Vol	Print Speed	Feed Speed
			Front	Pre						
Default	Test Mode	Uni	45	40	100	0008	0	20	Norm	Norm
PVC	4	Uni	45	45	EF-0020	0003	1	20	Norm	Norm
		Bi	45	45	EF-0020	0003	1	20	Norm	Norm
	8	Uni	45	45	EF-0020	0003	1	20	Norm	Norm
		Bi	45	45	EF-0020	0003	1	20	Norm	Norm
Banner	4	Uni	50	50	EF-0020	0003	1	20	Norm	Norm
		Bi	50	50	EF-0020	0003	1	20	Norm	Norm
	8	Uni	50	50	EF-0020	0003	1	20	Norm	Norm
		Bi	50	50	EF-0020	0003	1	20	Norm	Norm

- The print pass and the print direction are set from the TRY software; other condition settings are set from the operation panel.
- Refer to section 4.2 Description of menu function.
- EF =Drive Voltage of Print-head

16. Upgrading of firmware

(1) Write down the setting of the following parameters.

• When the firmware is upgraded, the parameters return to default condition.

Heater temperature (“Front Heater”, “PreHeater”)

Print Speed

Feed Speed

Firing Vol

Flash Mode

Print head voltage (“PH Volt.Set”)

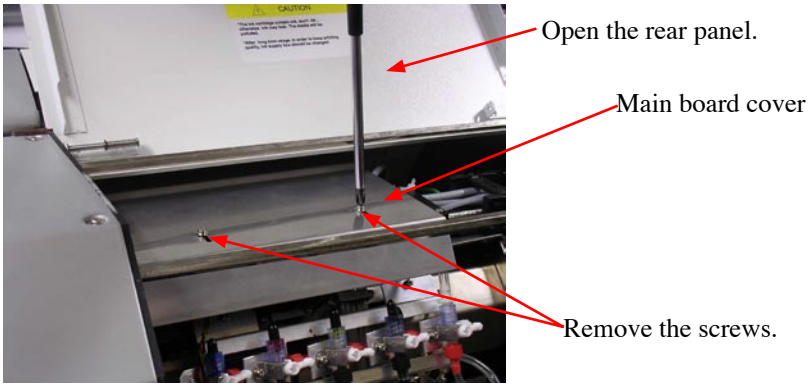
Curve of ink

(2) Move the printhead carriage to the cleaning position.

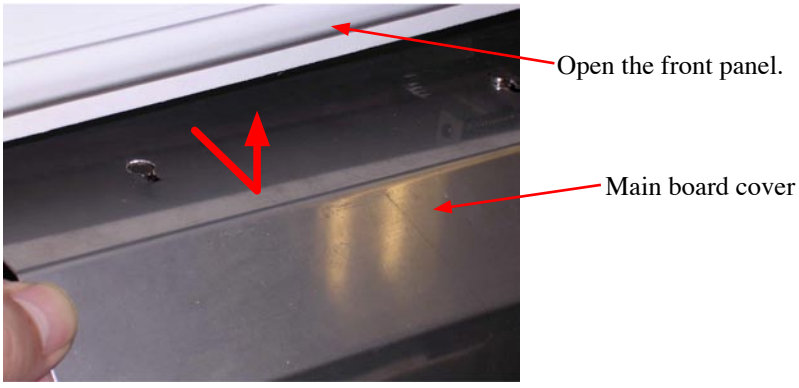
(3) Turn off the printer power supply.

(4) Remove the main board cover.

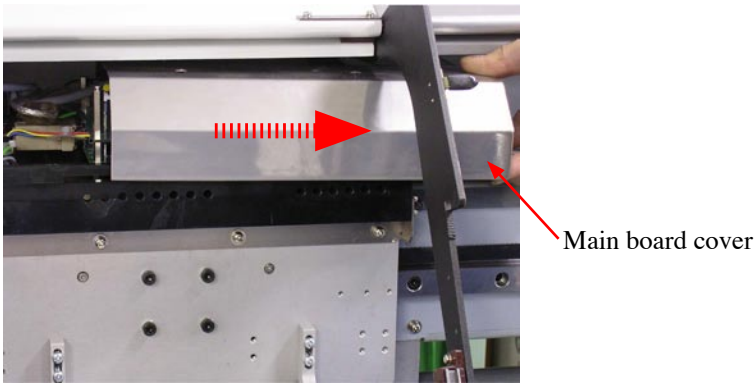
(5) Open the rear panel, and then remove the two screws holding rear of the main board cover.



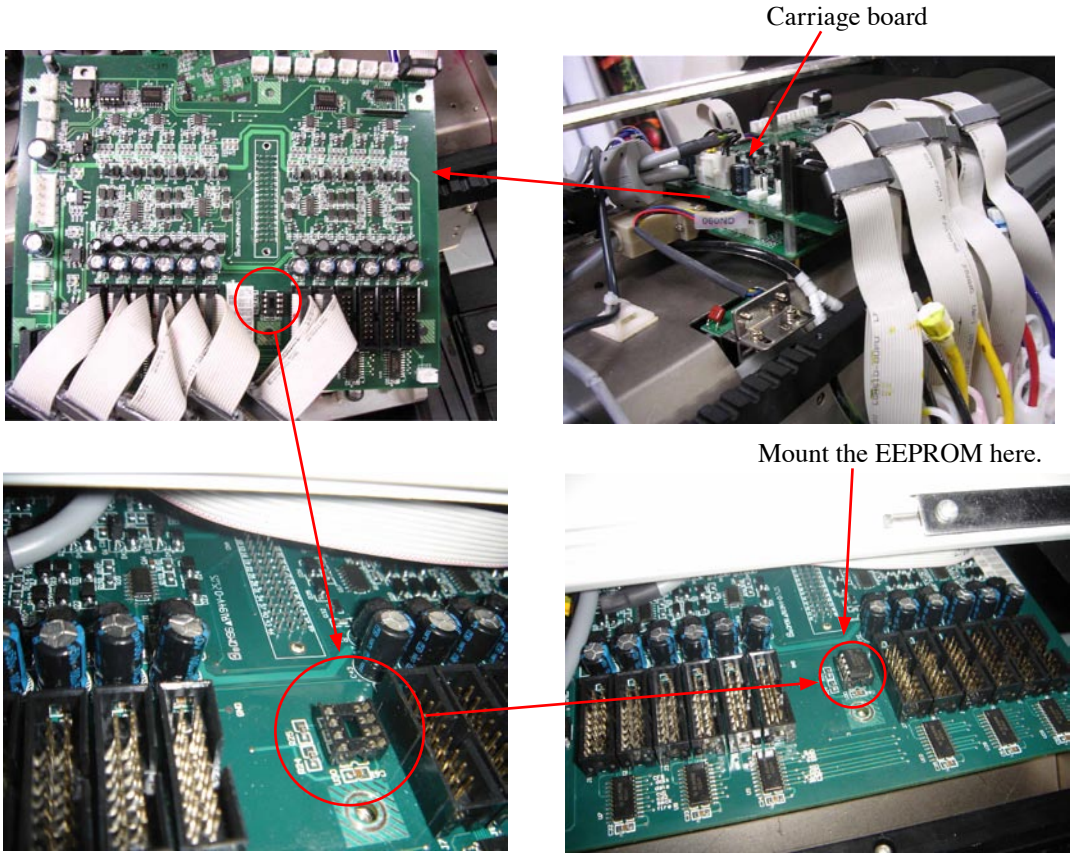
(6) Open the front panel, and then detach the main board cover from the grooved pins.



(7) Remove the main board cover from the right side as shown in the below picture.



(8) Mount the EEPROM on the IC socket of the main board U30 to upgrade the firmware.



(9) Turn on the printer power supply.

(10) “Reset please check system” is displayed on the LCD.

(11) Turn off the printer power supply.

(12) Remove the EEPROM from the IC socket.

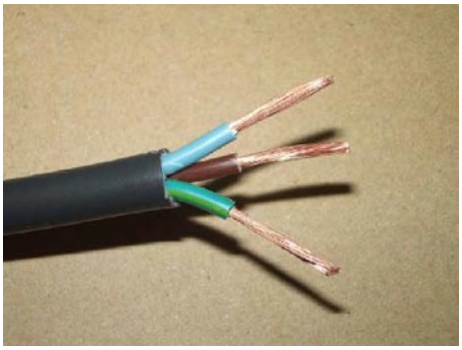
(13) Reattach the main board cover.

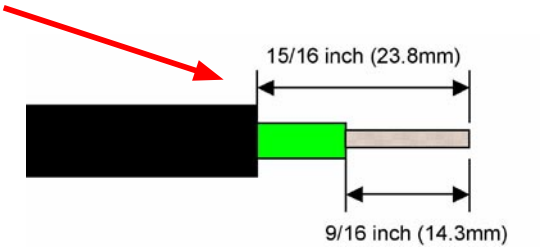
(14) Set the parameters returned to default condition that it was written down in step (1).

17. AC cable alteration procedure from CEE to NEMA

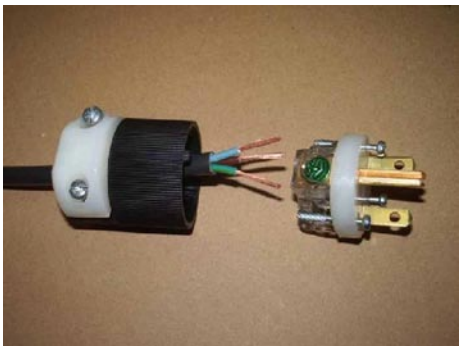
(1) Cut the head of CEE cable.

(2) Peel off the edge of the cut cable with wire stripper as below length.

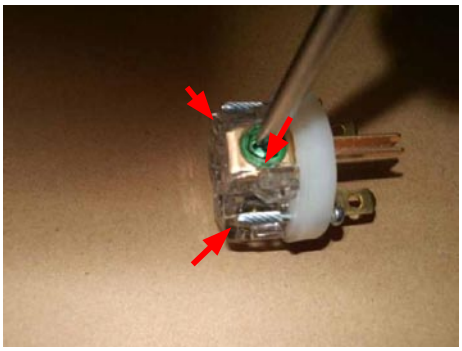




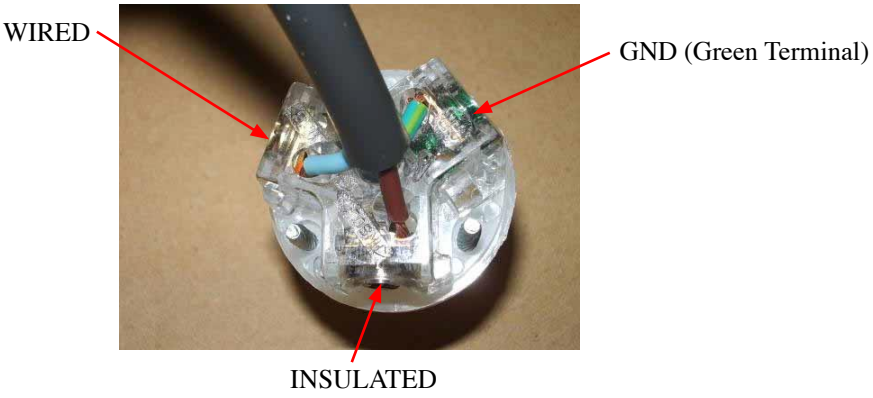
(3) After removing the head of NEMA plug, insert the peeled off cable.



(4) Loosen three terminal screws.



(5) Insert conductors fully into proper terminals and tighten them.

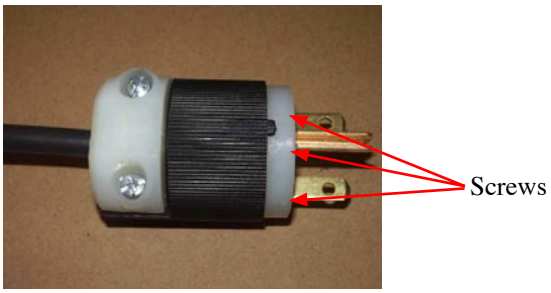


Terminal	Conductor Cable Color
GND	Green or (Green/Yellow)
WIRE	White or Gray
INSULATED	Brown (Not White, Not Green)

⚠ CAUTION:

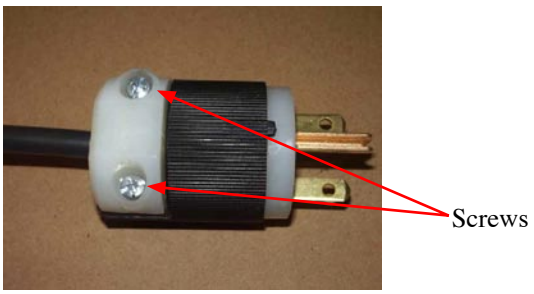
If not connect cables into correct positions, it will damage the cable and machine, resulting in a fire hazard or electrical shock.

(6) Put the head of the plug and tighten the screws.



(7) Select the “smaller” side to set the proper core gage.

(8) Tighten the screws to fix the cable.



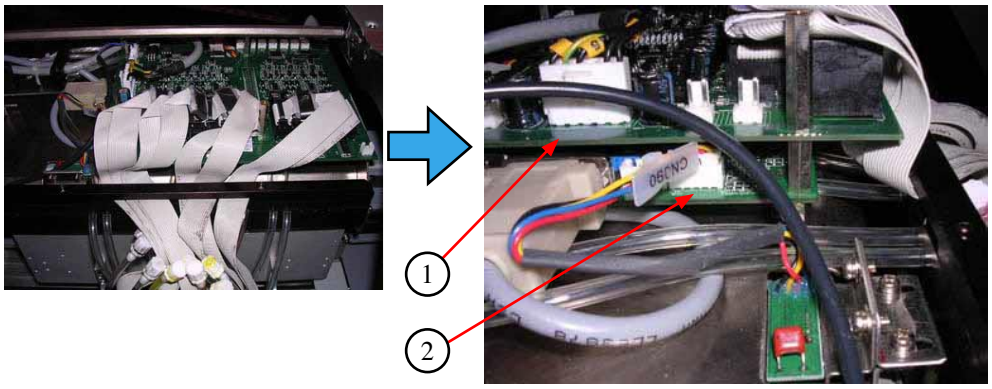
18. Maintenance parts lists

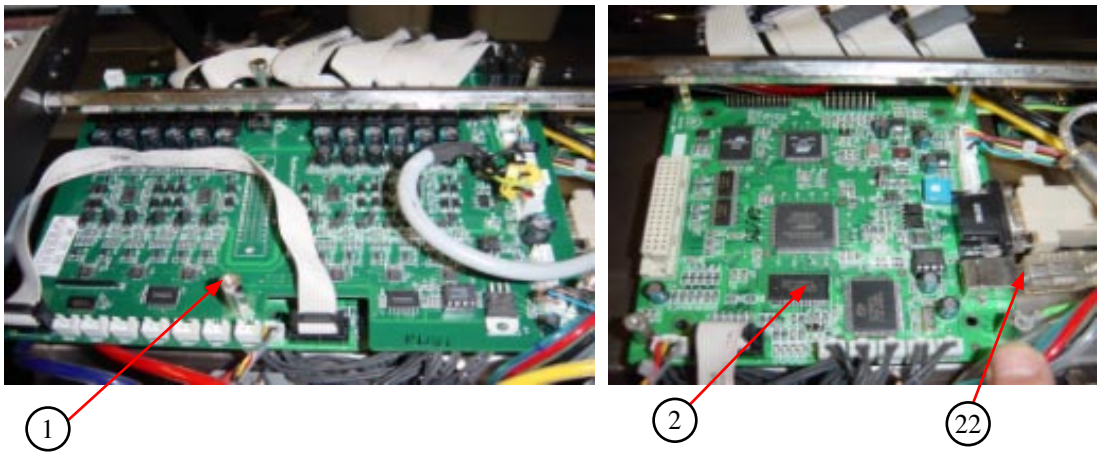
18.1 Recommend Parts List

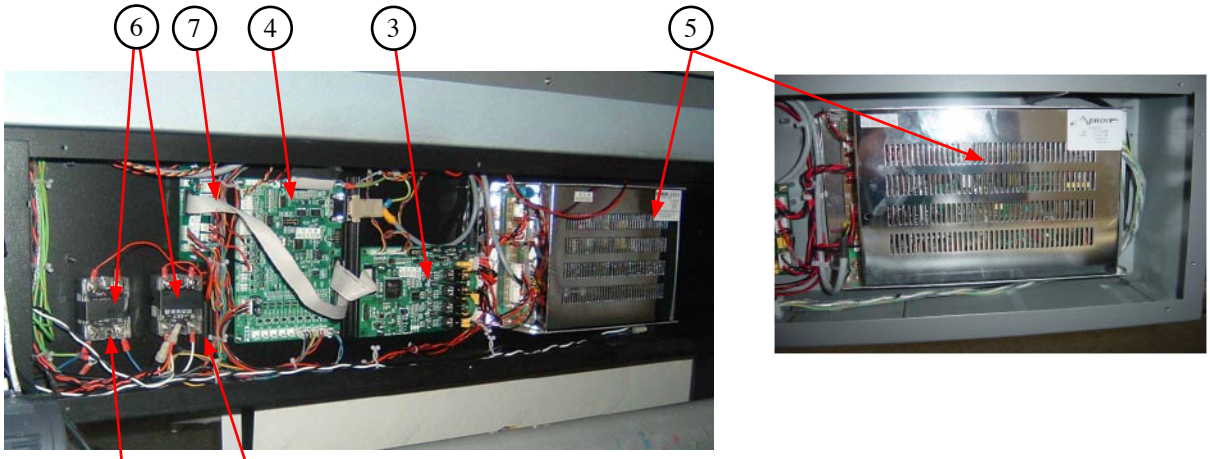
Item No.	Rank	Part number	Part Name	Quantity	Remark
1	A	677646000	Print Head	24	Xaar126-300 head
2	A	677642040	Print Head Control Board	3	E100810
3	A	677642820	X / Y Combined Board 31	3	E202407B
4	A	677642910	PITTMAN 14207 Motor	6	E206804
5	A	677642560	Imported Ink Filter	15	W510100
6	A	677643020	3 way Valve	30	W400102
7	B	677642800	Main Board 31018	2	JS310-18ES, E100703B
	B	677642810	Main Board 31028	2	JS310-25ES, E100703C
8	B	677642830	Ink Supply Control Board	2	E100306
9	B	677642070	Power Supply Assy	2	E203101
10	B	677642320	Y Motor Belt 320-2GT	2	W400007
11	B	677642920	Y-axis Belt 71	2	JS310-25ES, W400260
	B	677642930	Y-axis Belt 57	2	JS310-18ES, W400261
12	B	677642310	2.5M X Motor Belt	2	W400080
13	B	677642220	Bearing 6900ZZ-NR	4	W100020
14	B	677642360	2.5M Encoder Strip	2	E202901B
15	B	677642550	Whatman Air Filter	2	IM6240109
16	B	677642530	KNF Air Pump NMP-830 24V	2	E201203
17	B	677642540	KNF Large Ink Pump	10	E201204
18	B	677642450	Sub Tank	10	IM6220200
19	C	677642110	LCD Display	1	E100101
20	C	500053128	Control Panel Assy	1	WCP001
21	C	677642160	Solid Relay	2	E206601
22	C	677642270	Motor Gear	2	VM2090614
23	C	677642280	2.5M Y Motor Pulley	1	IM2090203
24	C	677642290	2.5M Y Motor Synchro Pulley	1	IM2090402
25	C	677642430	2.5M Pinch Roller	4	SP001
26	C	677642350	Media Guide	2	IIM0070006
27	C	677642950	Encoder Disk	1	VM6080013
28	C	677643750	Y Encoder Sensor	1	E110103
29	C	677643740	X Encoder Sensor	1	E110102
30	C	677642400	Origin Sensor	1	E200301
31	C	677642190	Take-Up & Release Sensor	2	E205002B
32	C	677642970	IGUS Carriage Chain 81 Joint	1	JS310-18ES, W400400
	C	677642980	IGUS Carriage Chain 89 Joint	1	JS310-25ES, W400265
33	C	677642520	Electric Mag Valve	1	E207001
34	C	677642440	Floating Switch	2	E201106

18.2 Electrical part

Item No.	Part number	Part Name	Quantity	Remark
1	677642040	Print Head Control Board	1	E100810
2	677642800	Main Board 31018	1	JS310-18ES, E100703B
	677642810	Main Board 31025	1	JS310-25ES, E100703C
3	677642820	X / Y Combined Board 31	1	E202407B
4	677642830	Ink Supply Control Board	1	E100306
5	677642070	Power Supply Assy	1	E203101
6	677642160	Solid Relay	2	E206601
7	677642030	Transmission Board (Ink Control)	1	E110409
8	677648120	Inlet, Main unit (Printer)	1	E200903A
9	677642840	Inlet, Heater	1	E200902
10	677642080	Circuit Breaker	2	E203402
11	677643840	USB Hub P7310	1	SR3100010
12	677642100	Power Switch	2	E201401
13	677643700	Feed Roller Motor	1	E205106
14	677643710	Take Up Shaft Motor	1	E205107
15	677642900	Take Up/Feed Control Board	1	E101507
16	677642910	X/Y Motor, A-PRINT 14207	2	E206804
17	677643800	Cable, Main Board to Print Head Contol Board	1	CT304
18	677642130	Blower (220V)		E206202A
19	677642140	Blower Web Cover		E206206
20	677643600	Vacuum Cleaner	1	E206901
21	677642200	3 way Switch	2	E205402
22	677643810	USB Cable 3.7M	1	JS310-18ES, PU4100010
	677643820	USB Cable 4.4M	1	JS310-25ES, PU4100020
23	677643850	USB Hub Bracket	1	P0212461
24	677642150	Connector for Vacuum Cleaner	1	E206902
25	677643300	Cable, Main Power Switch to Filter	1	CN060
26	677643900	Cleaning Station Control Panel Assy	1	

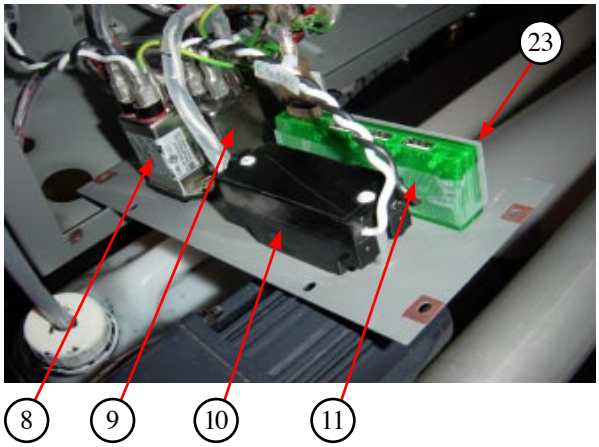


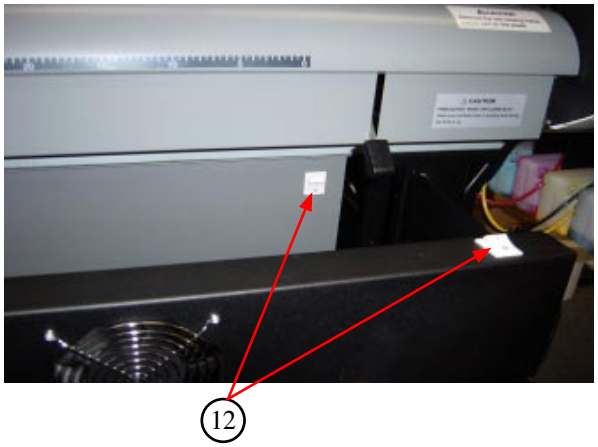


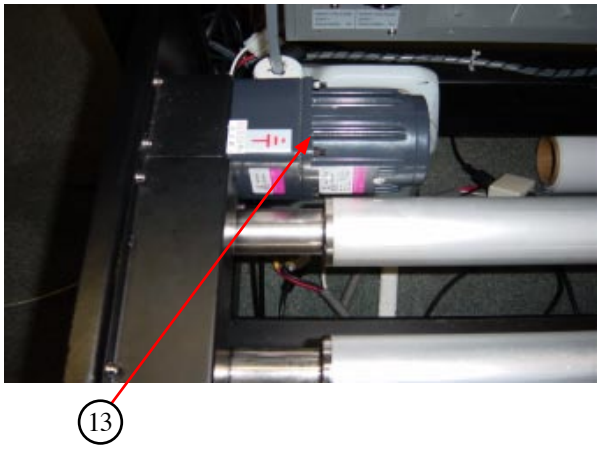


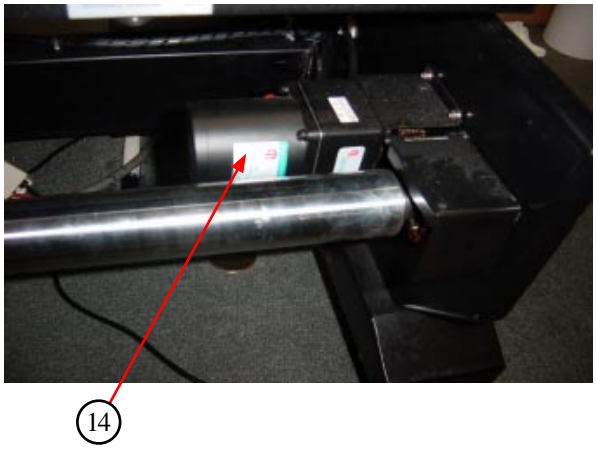
The solid relay that is connected to the heater

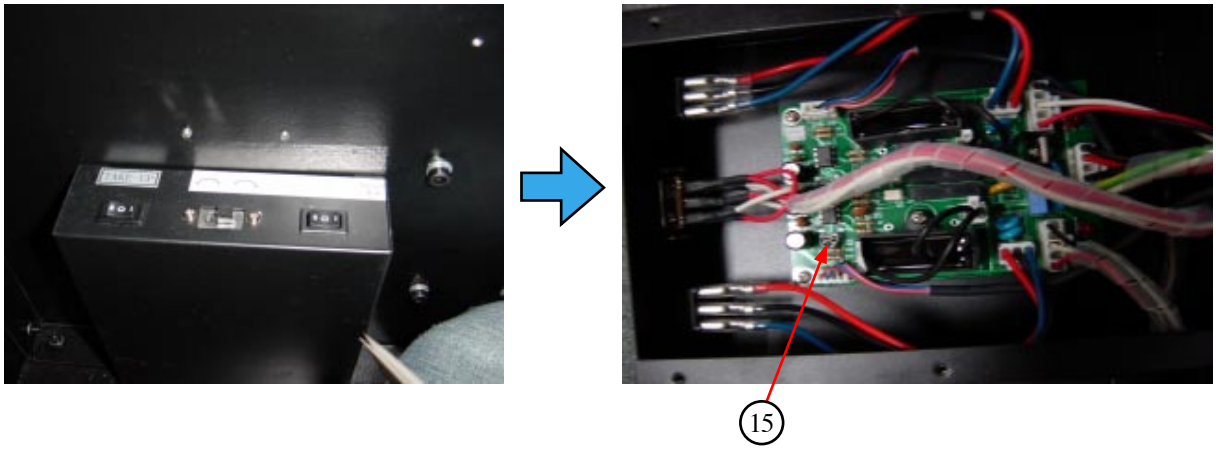
The solid relay that is connected to the cleaner

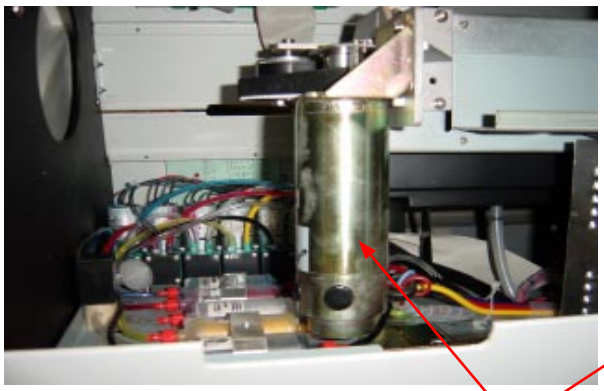


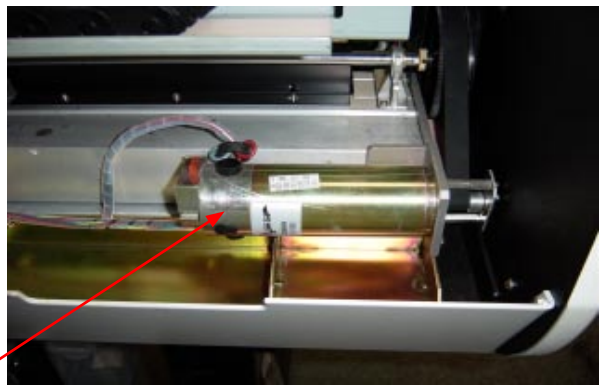












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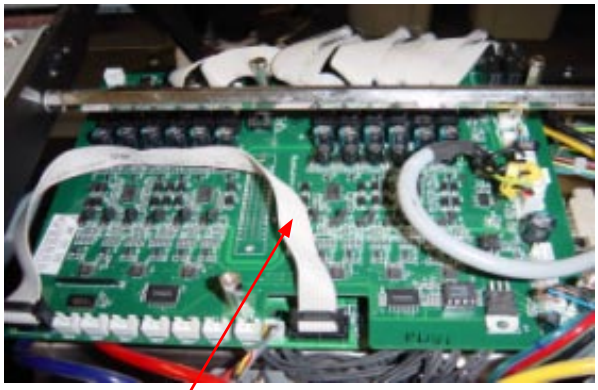

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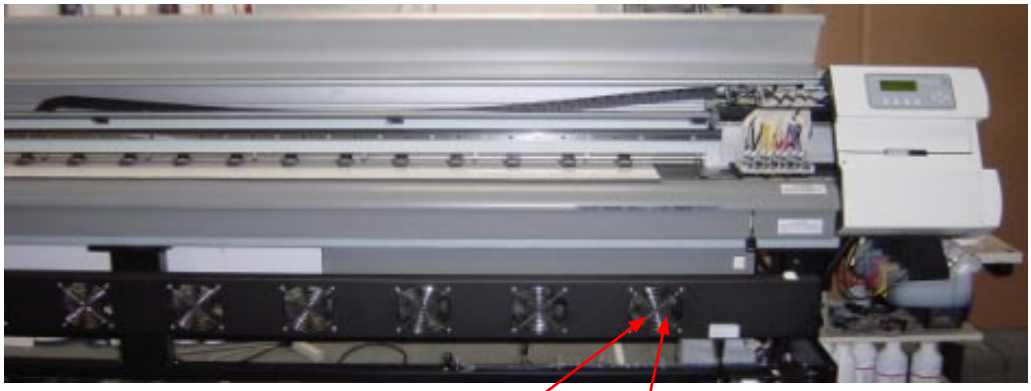

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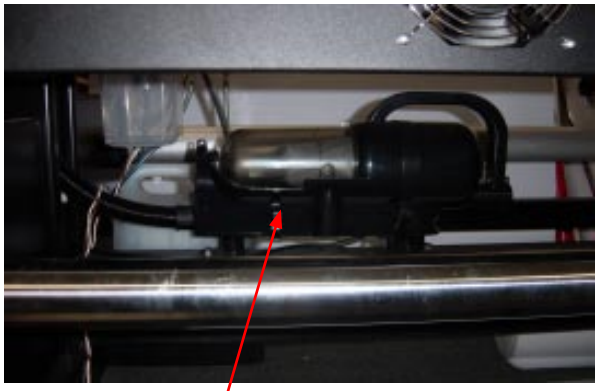

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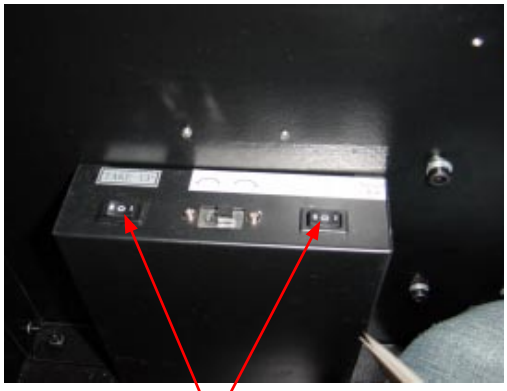

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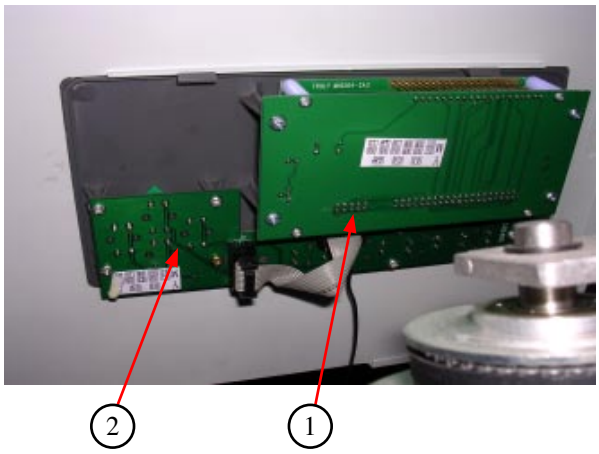
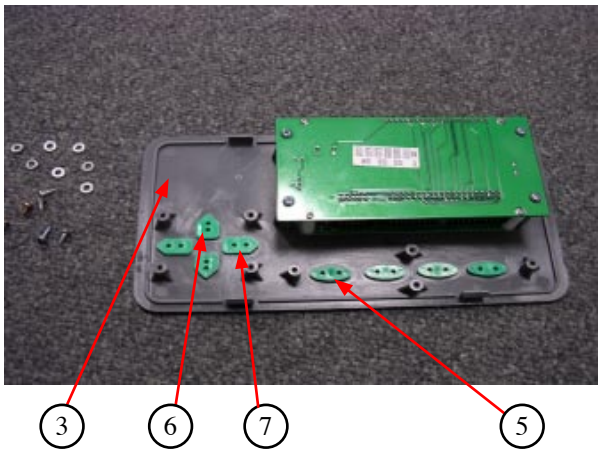
18.3 Control panel

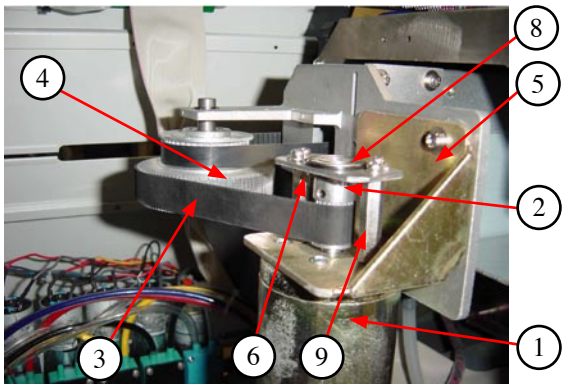
Item No.	Part number	Part Name	Quantity	Remark
1	677642110	LCD Display	1	E100101
2	677642120	II Pad Board Assy	1	E101601
3	677642850	Control Panel Cover	1	P6010508
4	677642860	Control Panel Sheet	1	P4210110
5	677642870	Function Key	4	P5410010
6	677642880	Up & Down Key	2	P5410020
7	677642890	Left & Right Key	2	P5410030
8	500053128	Control Panel Assy (Assembled from Item 1 to Item 7)	1	WCP001

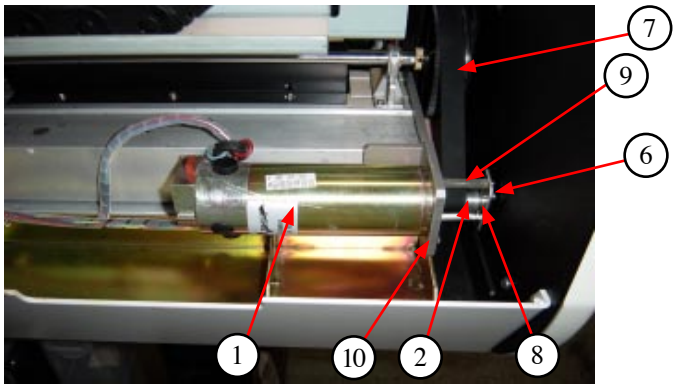


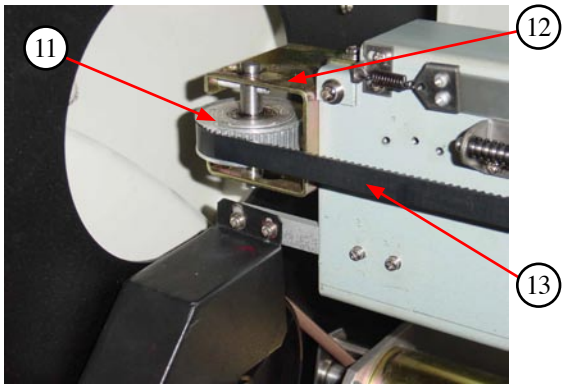


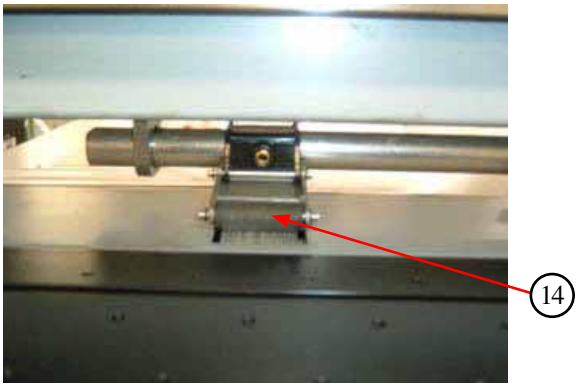
18.4 Main Frame

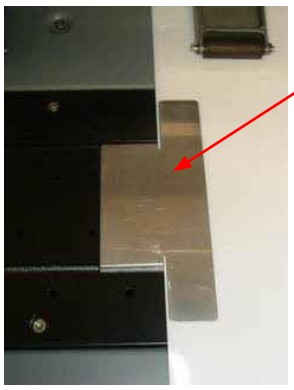
Item No.	Part number	Part Name	Quantity	Remark
1	677642910	X/Y Motor, A-PRINT 14207	2	E206804
2	677642270	Motor Gear	2	VM2090614
3	677642320	Y Motor Belt 320-2GT	1	W400007
4	677642280	2.5M Y Motor Pulley	1	IM2090203
5	677642260	Y Motor Bracket	1	VM5090003
6	677642250	Motor Support Bracket	2	IIM5080011
7	677642310	2.5M X Motor Belt	1	W400080
8	677642220	Bearing 6900ZZ-NR	2	W100020
9	677642240	Stud, Motor Support Bracket	4	IM2090104
10	677642230	X Motor Bracket	1	IIM5080012
11	677642290	2.5M Y Synchro Pulley	1	IM2090402
12	677648210	Y Synchro Pulley Bracket	1	IVM2090213
13	677642920	Y-axis BelT 71	1	JS310-25ES, W400260
	677642930	Y-axis BelT 57	1	JS310-18ES, W400261
14	677642430	2.5M Pinch Roller		SP001
15	677642940	Media Guide	2	IXM0070006
16	677642970	IGUS Carriage Chain 81joint	1	JS310-18ES, W400400
	677642980	IGUS Carriage Chain 89 joint	1	JS310-25ES, W400265
17	677642340	Absober Left	1	IIM0050300
18	677642330	Absober Right	1	IIM0050400
19	677646010	Stand Wheel	4	W400036
20	677643930	Center Cover Bottom 18	1	JS310-18ES
	677643940	Center Cover Bottom 25	1	JS310-25ES
21	677643960	Cleaning Station Bottom Top Cover	1	
22	677643980	Cleaning Station Bottom Cover	1	
23	677643910	Y Belt Stopper	2	







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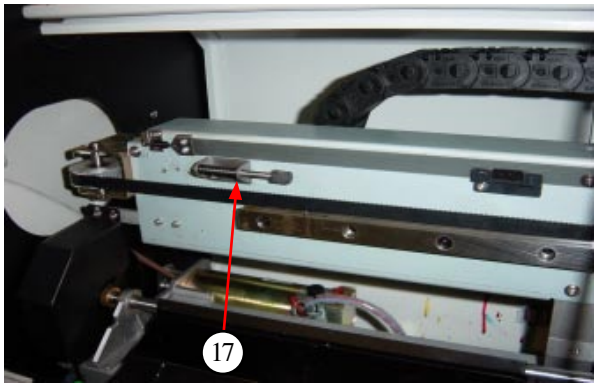
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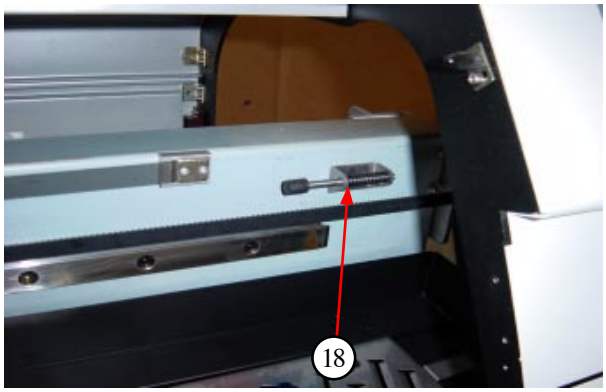
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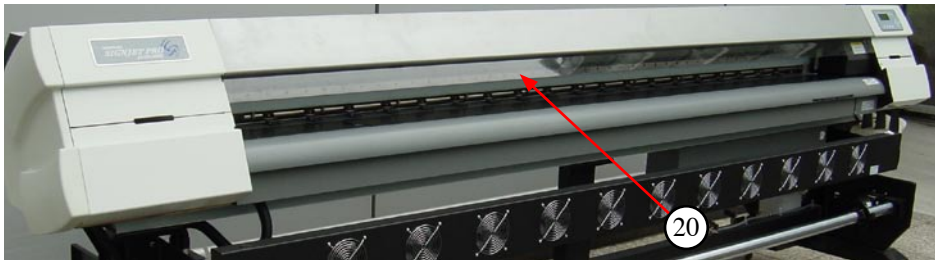
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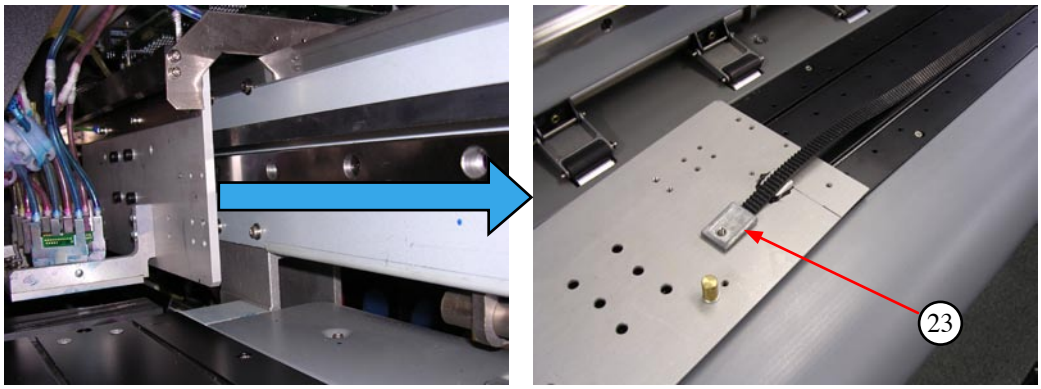
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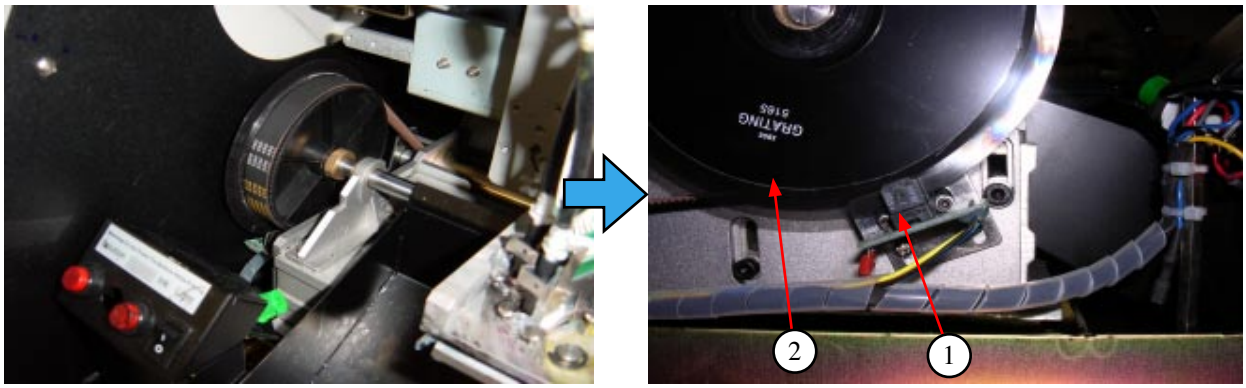
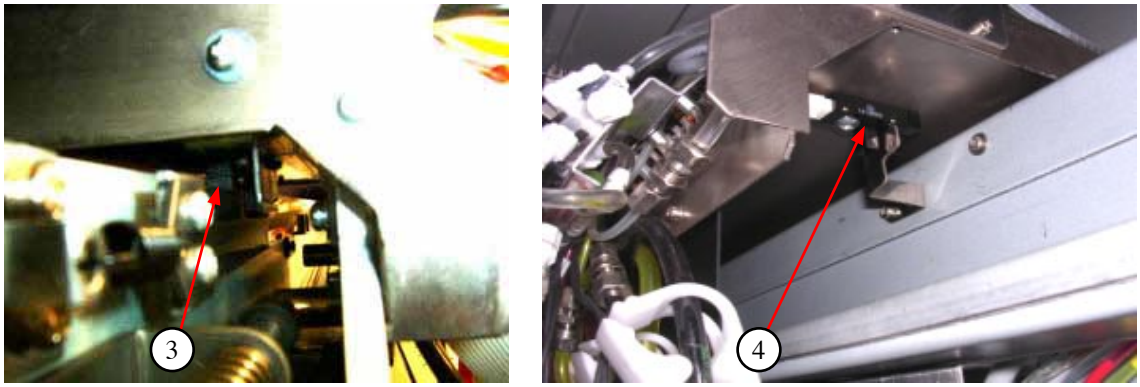
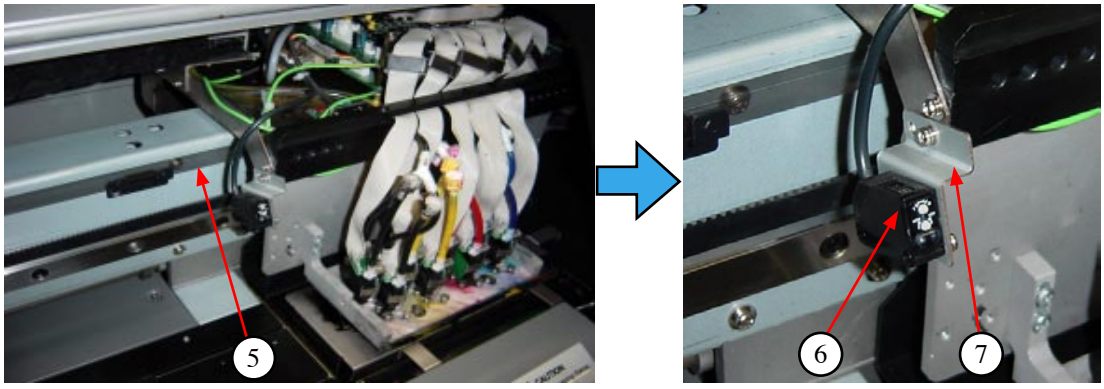
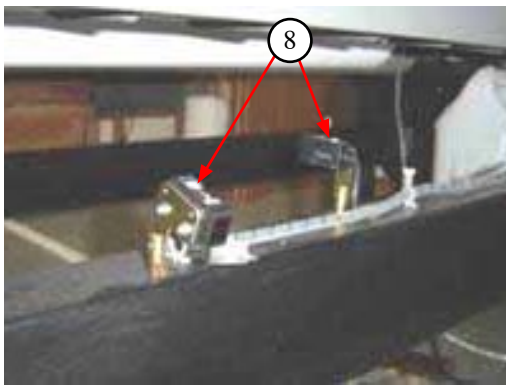
18.5 Sensor part

Item No.	Part number	Part Name	Quantity	Remark
1	677643740	X Encoder Sensor	1	E110102
2	677642950	Encoder Disk	1	VM6080013
3	677643750	Y Encoder Sensor	1	E110103
4	677642400	Original Sensor	1	E200301
5	677642360	2.5M Encoder Strip	1	E202901B
6	677648100	Media Sensor	1	P5900380
7	677648110	Media Sensor Bracket	1	IXM5220004
8	677642190	Take-Up & Feed Sensor	2	E205002B
9	677642410	Thermal Protector		BF01
10	677642420	Thermal Sensor		E202601





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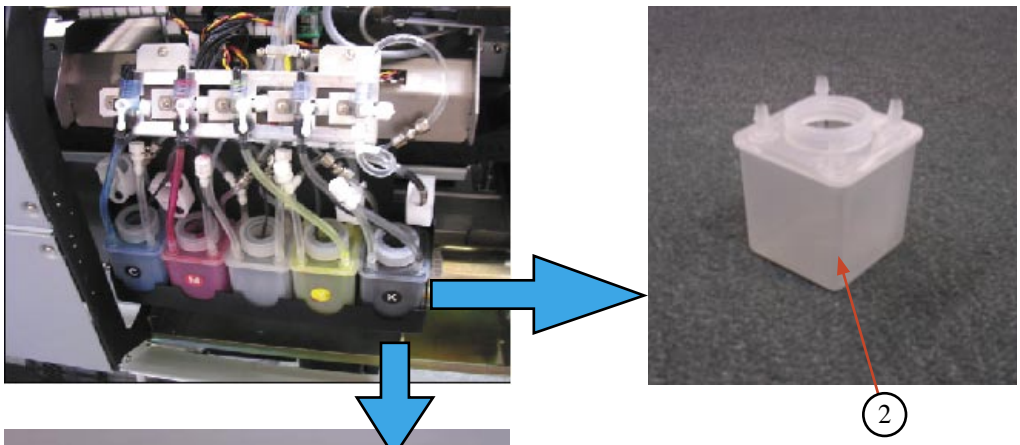
18.6 Inkjet part

Item No.	Part number	Part Name	Quantity	Remark
1	677642440	Floating Switch	4	E201106
2	677642450	Sub Tank	5	IM6220200
3	677642460	Main Tank	5	IIM6240002
4	677642500	Main Tank Filter Assy	5	IM6240004
5	677642470	Waste Bottle	2	IM6160001
6	677642520	Electric Mag Valve	1	E207001
7	677642560	Ink Filter	5	W510100
8	677642570	Filter Fixing Plate	2	IIM5240221
9	677642550	Air Filter	1	IM6240109
10	677642530	KNF Air Pump NMP-830 24V	1	E201203
11	677642540	KNF Ink Pump	5	E201204
12	677642960	Ink Disposal Container	1	VM5160002
13	677642710	3/4 Tube		W500020
14	677642720	2/3 Tube		W500030
15	677642730	3/5 Tube		W500050
16	677642740	2/4 Tube		W500060
17	677642750	4/6 Tube		W500070
18	677643090	3 Way Valve	5	W400102
19	677643130	M type 4/6 Tube Connector	4	W400124
20	677643100	T shaped 3-way Connector	5	W400121
21	677643110	Y shaped 3-way Connector	4	W400122
22	677643160	F type 3/5 Tube Connector		W400127
23	677643130	M type 4/6 Tube Connector		W400124
24	677643150	M type 3/5 Tube Connector		W400126
25	677643170	M type 2/4 Tube Connector		W400128
26	677643140	F type 4/6 Tube Connector		W400125
27	677643160	F type 3/5 Tube Connector		W400127
28	677643200	Connector Cover		W400129
29	677643770	126 Printhead Tube Connector		W400141
30	677643210	Tube Clip		W400134
31	677643150	M type 3/5 Tube Connector		W400126
32	677643890	P/H FIX STAND		
33	677642580	Filter Press Board		IIM5240222
34	677642510	3/4/,4/5 Plastic Connector		IM6240007
35	677642590	Plastic Vaccum Cap		IIM6170306
36	677642600	Plastic Vaccum Cap Cover		IIM6170309
37	677642610	Hexangular Supporting Stud		VM5240002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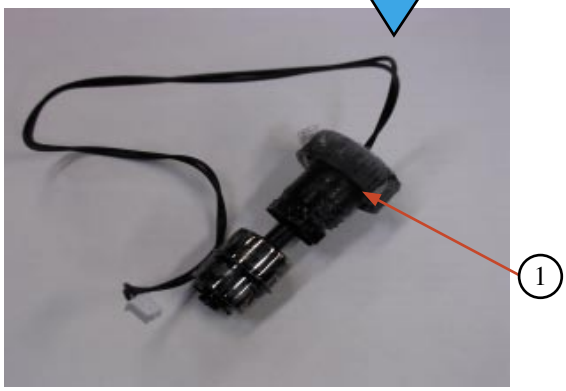
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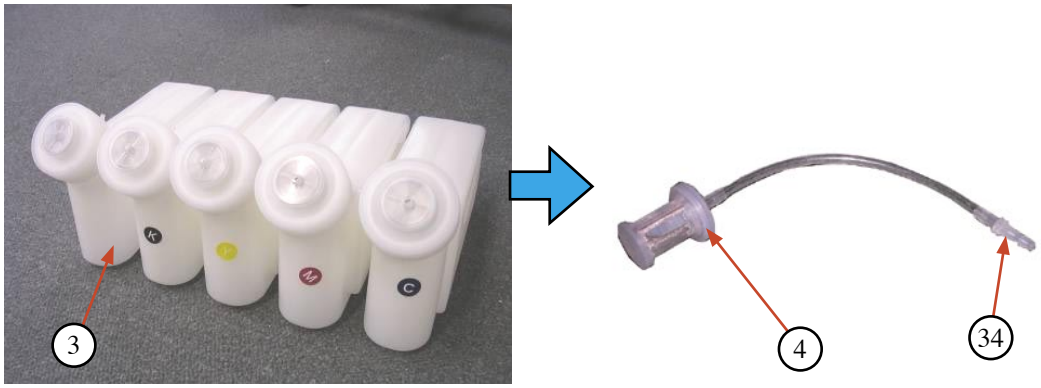
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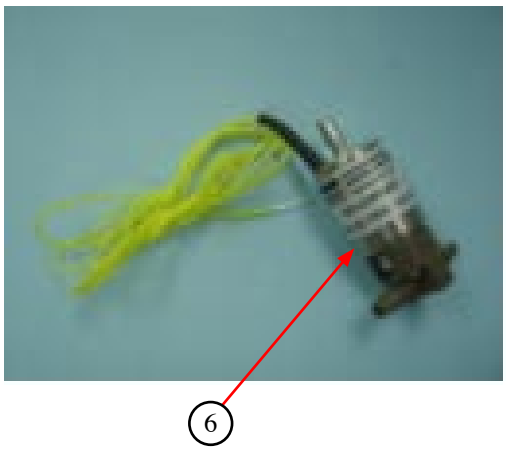
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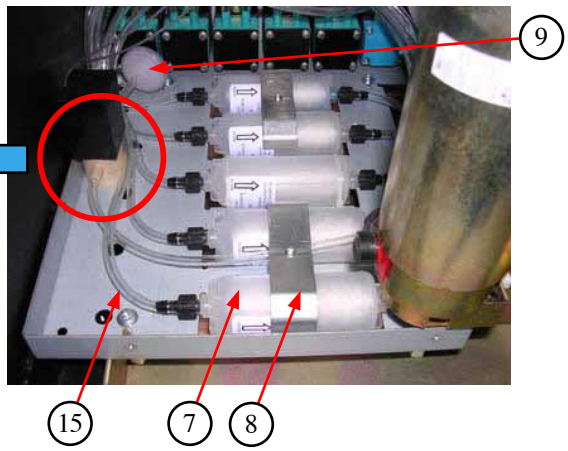
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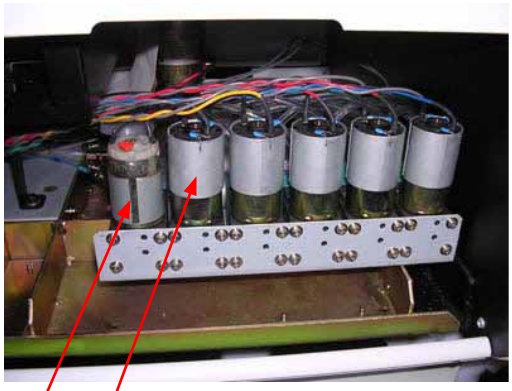
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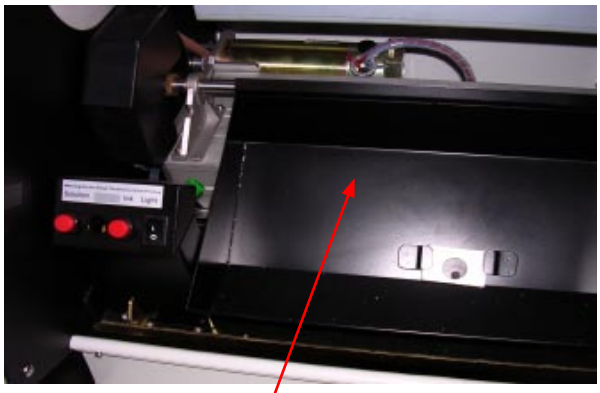
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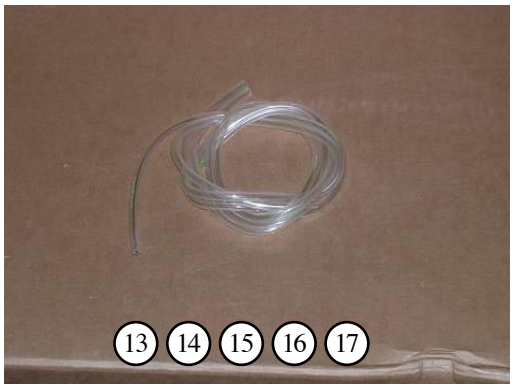
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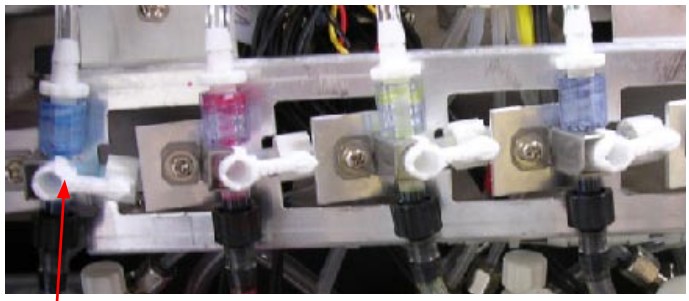
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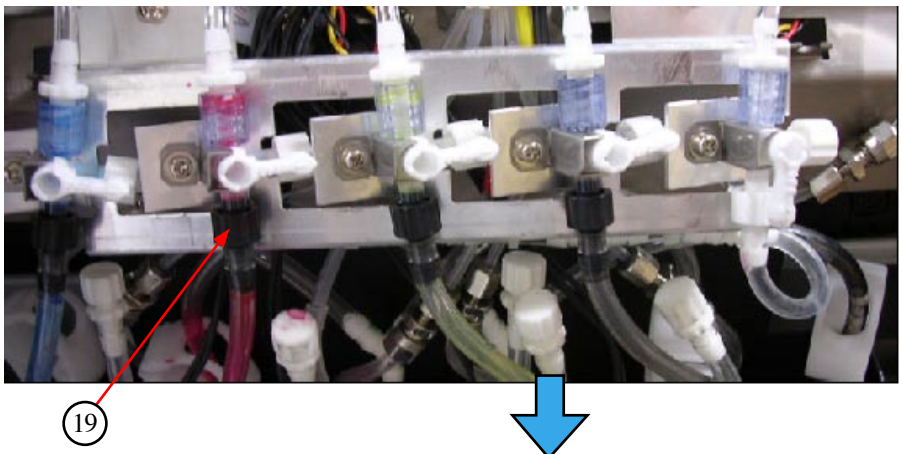
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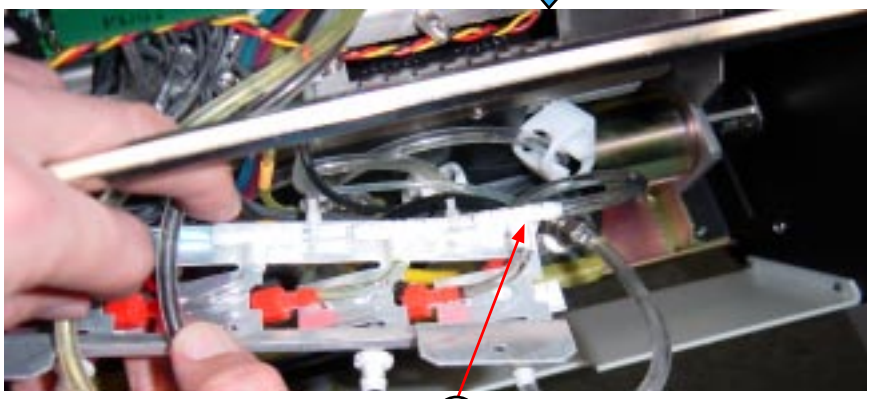
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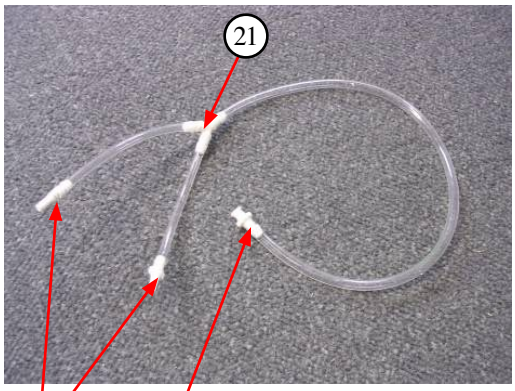
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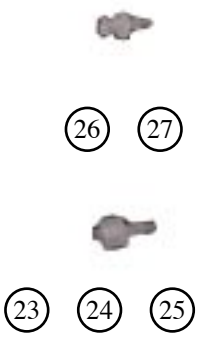
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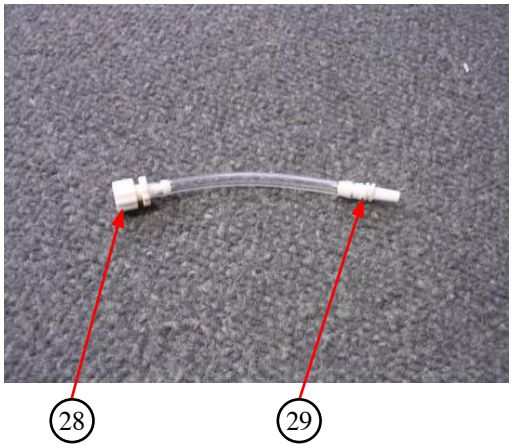
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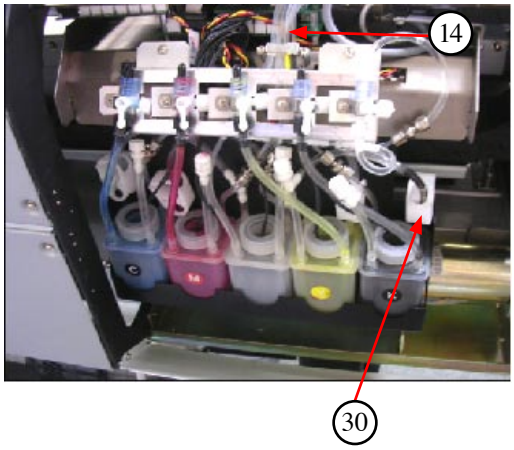
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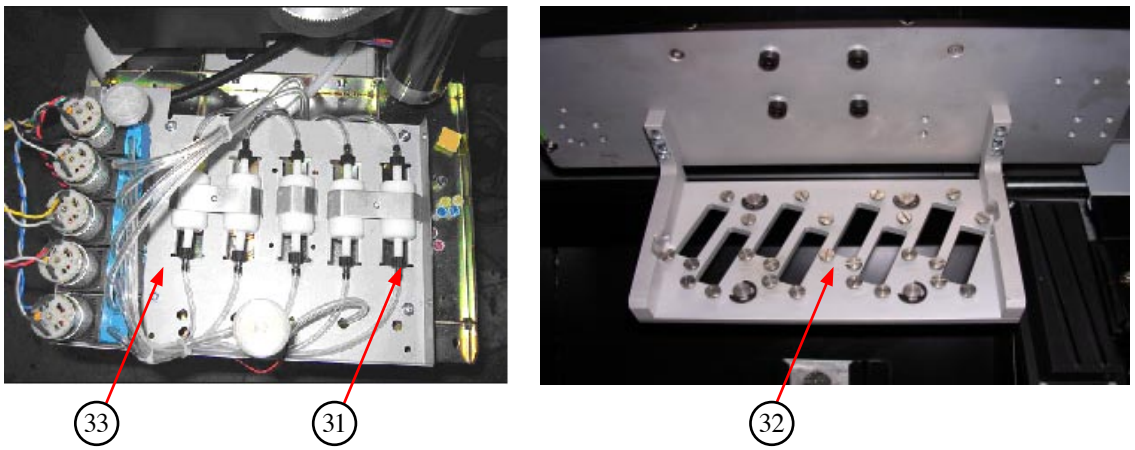
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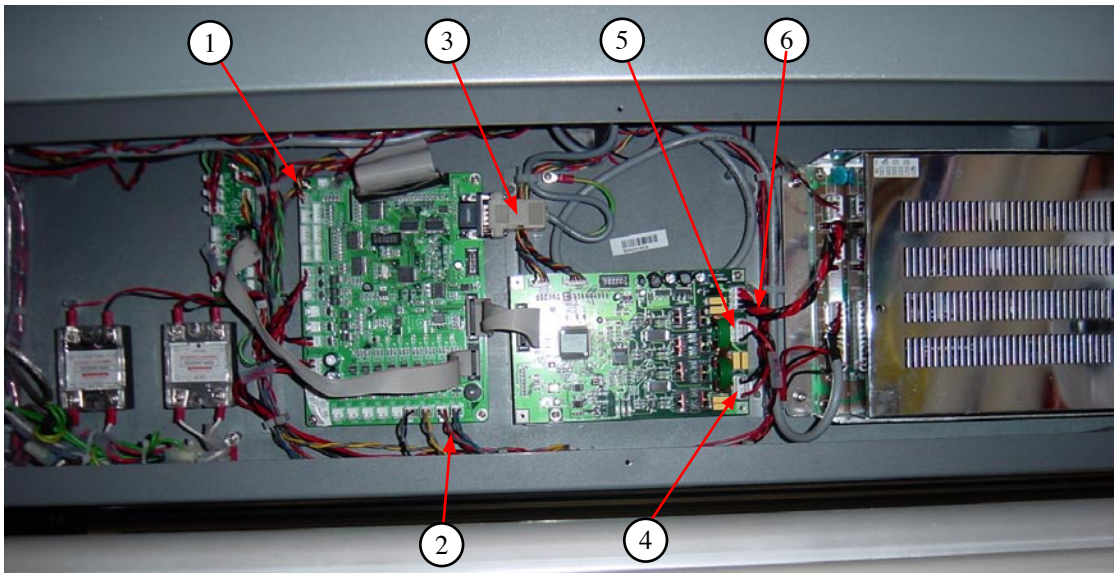
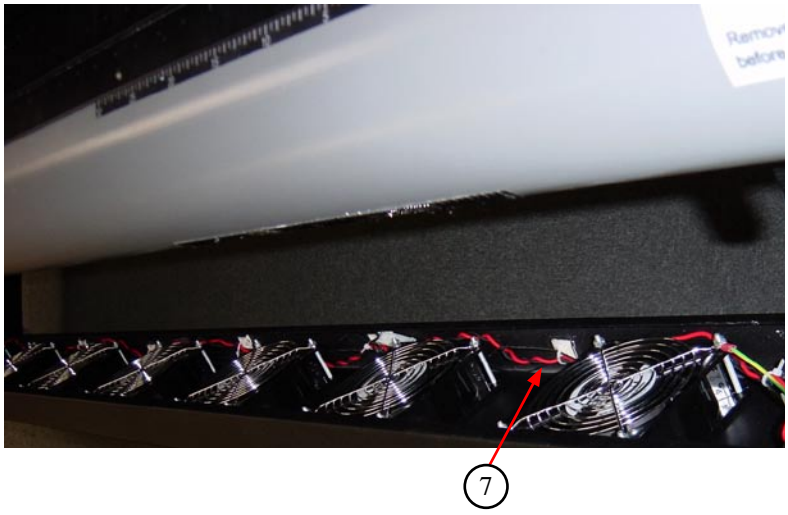
18.7 Cables

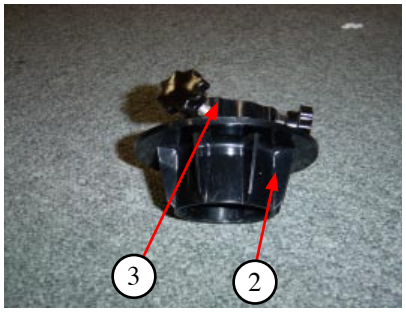
Item No.	Part number	Part Name	Quantity	Remark
1	677643370	Press Original Sensor Cable		CN360
2	677643420	Ink Pump Cable		CN920
3	677648200	Data Cable (mainboard to ink supply control board)	1	JS310-18ES, CH07
	677643860	Data Cable (mainboard to ink supply control board)	1	JS310-25ES, CH07A
4	677643410	Y Motor Cable		CN660
5	677643350	X Motor Cable		CN290
6	677643360	Motor Board to Power Supply Board		CN310
7	677643450	Blower Cable		CT333
8	677643310	MainBoard to Y Board 70mm		CN200
9	677643320	MainBoard to X Board		CN710
10	677643330	MainBoard to LCD / Ink Supply Control Board to Cleaning Board		CN210
11	677643340	Main Power Cable/Heating Cable/ Vaccum Cleaner Cable		CN250
12	677643430	Solid Relay to Connector Bar		CN980
13	677643440	X Motor Cable		CN840
14	677643870	5 Pins cable of CN14 (power board to ink control board) for 1.8m		JS310-18ES, P59105800
	677643880	5 Pins cable of CN14 (power board to ink control board) for 2.5m		JS310-25ES, P5910590
15	677642990	MainBoard to USB Convert Card		CN380
16	677643400	Key Pad to LCD/ MainBoard to Heating Control Board		CN610

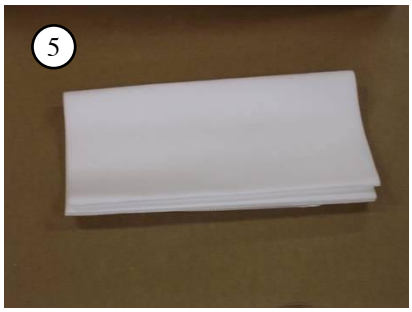


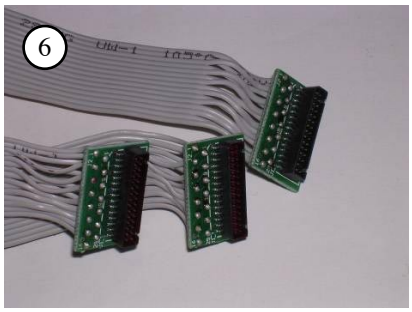


18.8 Accessories

Item No.	Part number	Part Name	Quantity	Remark
1	677648000	GTC FLANGE SET	2	
2	677643720	Media Fixing Stopper	2	IIM0190033
3	677643730	Plastic Screw for Media Fixing Stopper	2	W4000144
4	677643220	Cleaning Stick (TEXWIPE Head Swab)	4	W400139
5	677643230	Cloth for Xaar Print Head (W 200mm x L 2m)	1	F109
6	677642050	126 P/H Convert Card w/cable	8	E110407
7	677646200	POWER CABLE	3	
8	677646210	SCREW M4L12	8	
9	677646230	Tool box	1	
10	677646240	Sealing washer	2	
11	677646250	Wet keeping frame	1	
12	677646260	Bracket, Waste ink tank	2	
13	677646280	Clamp, Printhead	10	
14	677646300	P/H SCREW	3	
15	677646320	LIGHT BULB	1	
16	677646340	JIG P/H ADJUS	2	
17	677646350	CD RIP	1	
18	677646360	CD TRY-UTILIT	1	
19	677646380	U-MANUAL31	1	
20	677646400	SET-GUIDE31-E	1	
21	677646410	SET-GUIDE31-S	1	
22	677646420	P/H MANUAL	1	
23	677646440	Q-MANUAL31-E	1	
24	677646440	Q-MANUAL31-S	1	
25	677646490	AC PLUG	3	
26	677643210	Tube Clip	8	
27	677646460	TRY Important Setup Sheet	1	







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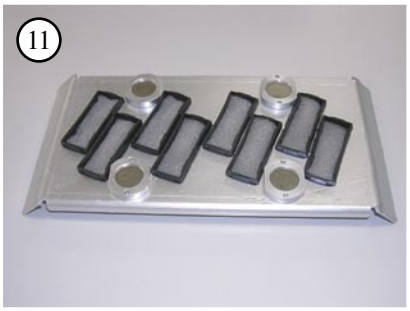

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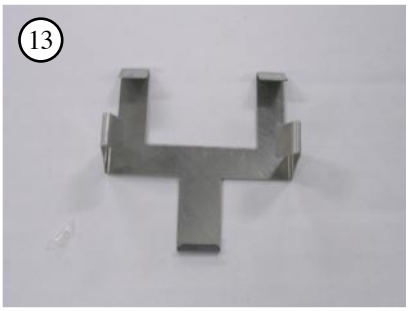

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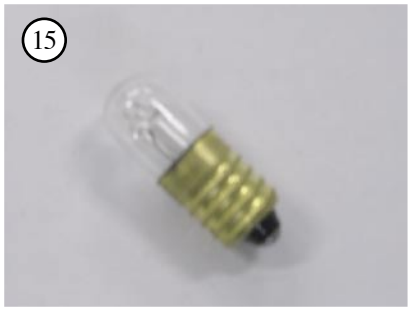

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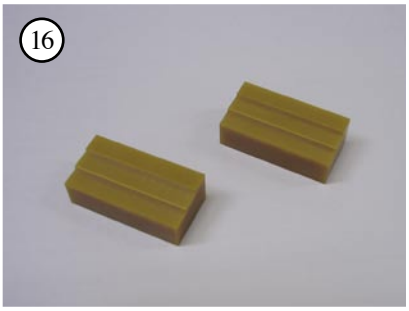
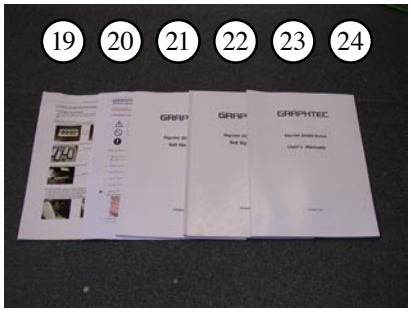


17 18

19 20 21 22 23 24



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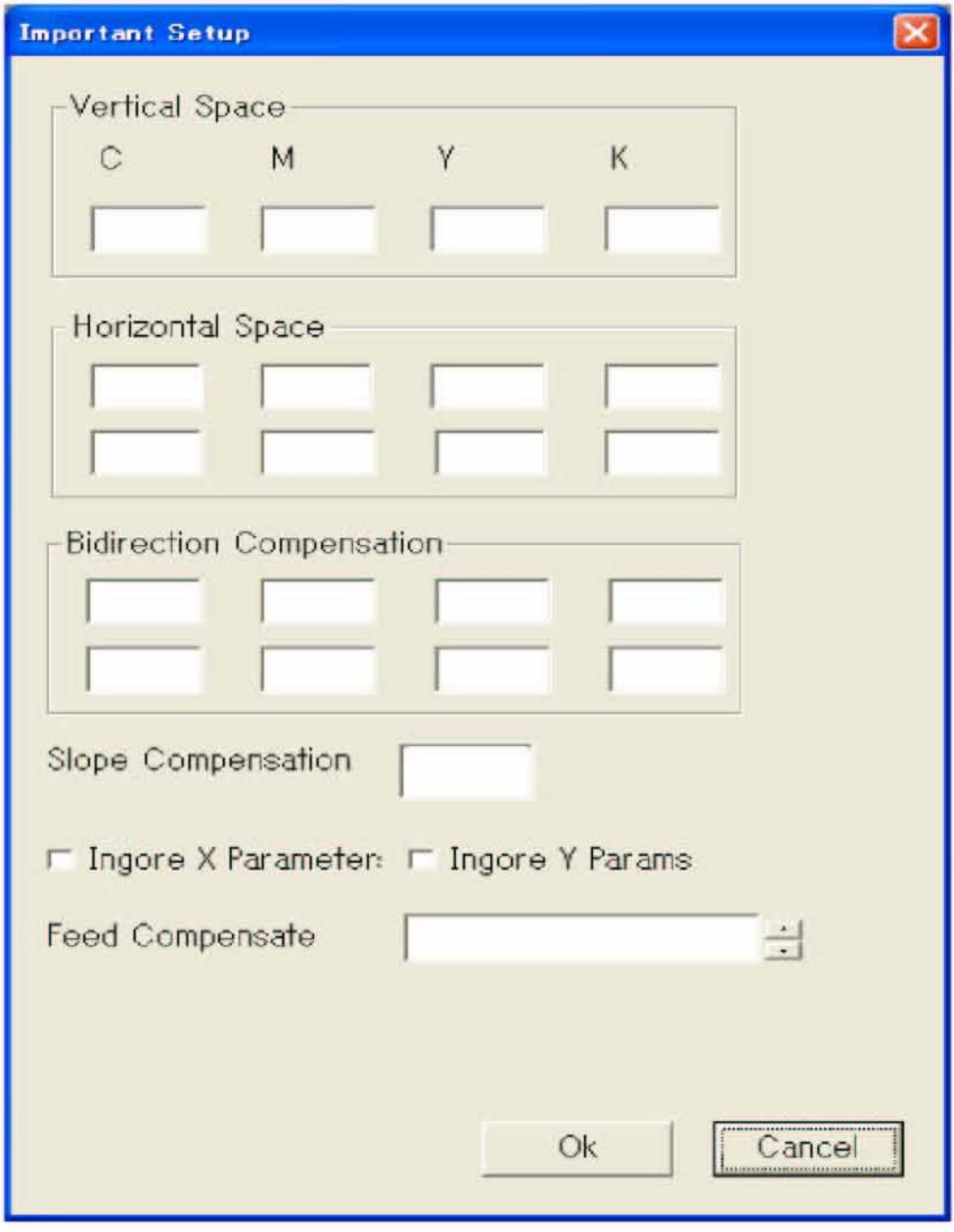
Try Important Setup sheet

If the printer is connected to other PC that was not used for the adjustment, the printing quality will be changed.
If you take notes all setup conditions on this sheet, you can easily reconfigure the set up condition when you change the PC.



The specifications, etc., in this manual are subject to change without notice.

JS310-UM-251

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